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Engineers' Data Sheets, 1918

# Ambler Asbestos Corrugated Roofing

Illustrations and Tables

for

# Standard Purlin Spacing

and the most economical and efficient arrangement or method of attaching

# Ambler Asbestos Corrugated Roofing

to steel or wood construction

PUBLISHED

by the

Asbestos
Shingle, Slate & Sheathing
Company

Factors

KEASBEY & MATTISON

COMPANY

AMBLER, PENNA.

U. S. A.

# AMBLER ASBESTOS BUILDING PRODUCTS NEW TYPE "ADJUSTABLE-PITCH" 6" WING RIDGE ROLL. Fig. 1 NEW TYPE "ADJUSTABLE-PITCH" 6" WING RIDGE ROLL Fig. 2 "ADJUSTABLE-PITCH" 6"WING Fig. 3

3'-6" and under Key to Standard Tables. Fig. 1

Length of Slope A	Length of Sheet B	Overhang at Eaves C	Purlin Spacing  D	Overhang at Ridge E
Variable	Variable	6"	Variable	6''

4'-0" to 6'-0" Table of Dimensions. Fig. 2

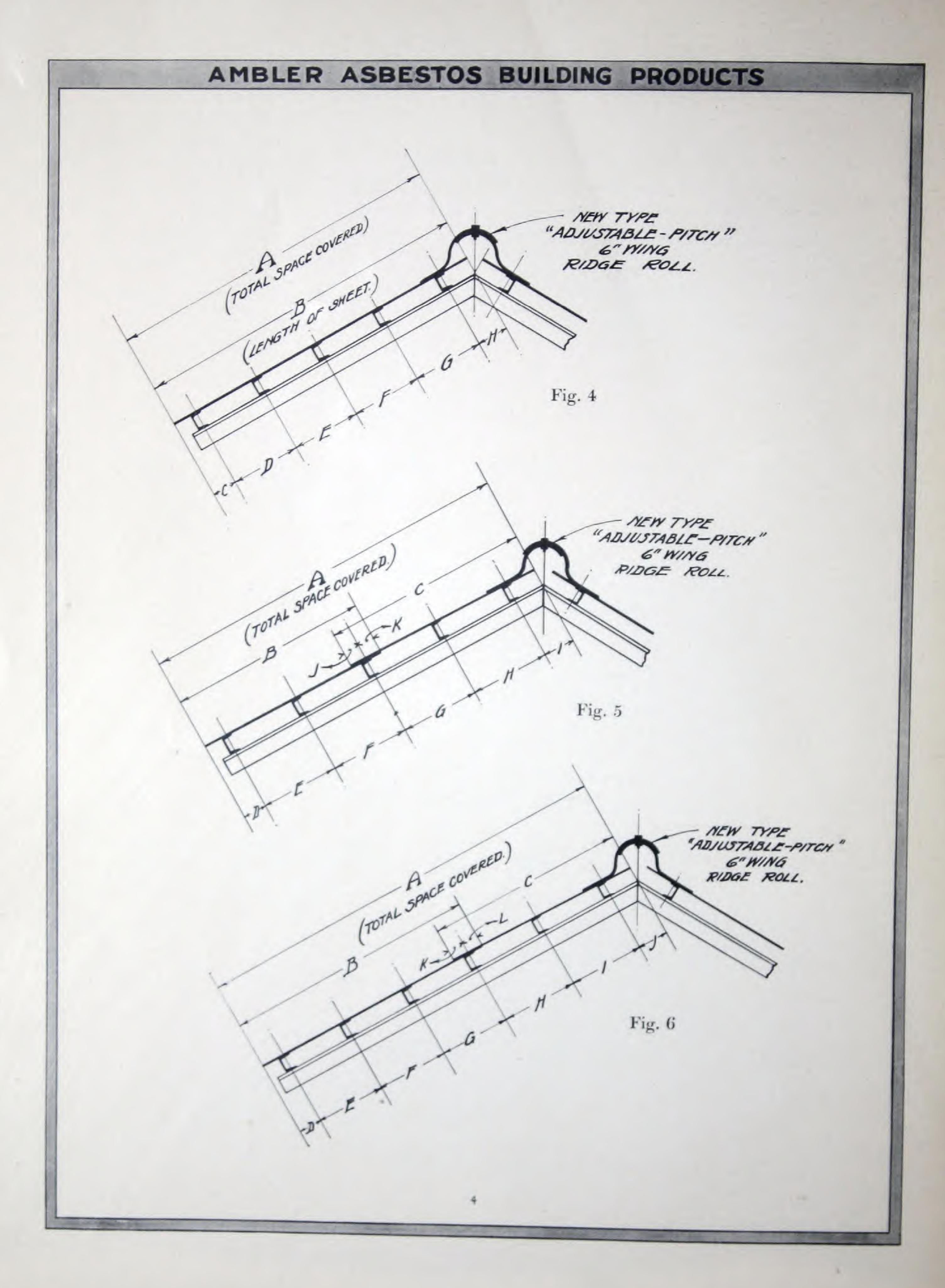
Length of Slope	Length of Sheet	Overhang at Eaves	Purlin	Purlin	Overhang at Ridge
A	В	C	D	E	F
4'-0''	4'-0''	6′′	18"	18"	6′′
4'-6"	4'-6''‡	6''	21"	21''	6"
5'-0"	5'-0''	6"	24"	24''	6''
5'-6"	5'-6''*	6''	27"	27"	6''
6'-0''	6'-0''	6''	30"	30′′	6′′

6'-6" to 9'-0" Table of Dimensions. Fig. 3

Length of Slope	Length of Sheet	Overhang at Eaves	Purlin	Purlin	Purlin	Overhang at Ridge
A	В	C	D	E	F	G
6'-6''	6'-6''*	6"	22"	22"	22"	6''
7'-0"	7'-0"	6"	24"	24"	24''	6′′
7'-6"	7'-6''*	6"	26''	26''	26"	6''
8'-0"	8'-0"	6"	28"	28"	28"	6"
8'-6"	8'-6''*	6"	30"	30"	30"	6''
9'-0"	9'-0"	6"	32"	32"	32"	6"

<sup>#</sup> Supplied in sheets of double length to be cut in two on job.

\* Supplied in sheets six inches longer than listed.



9'-6" to 10'-0"

Table of Dimensions. Fig. 4

Length of Slope	Length of Sheet	Overhang at Eaves		PURLINS	SPACING		Overhang at Ridge
A	В	C	D	E	F	G	Н
9'-6"	9'-6''* 10'-0''	6"	25½" 27"	25½" 27"	25½" 27"	25½" 27"	6" 6"

10'-6" to 12'-0"
Table of Dimensions. Fig. 5

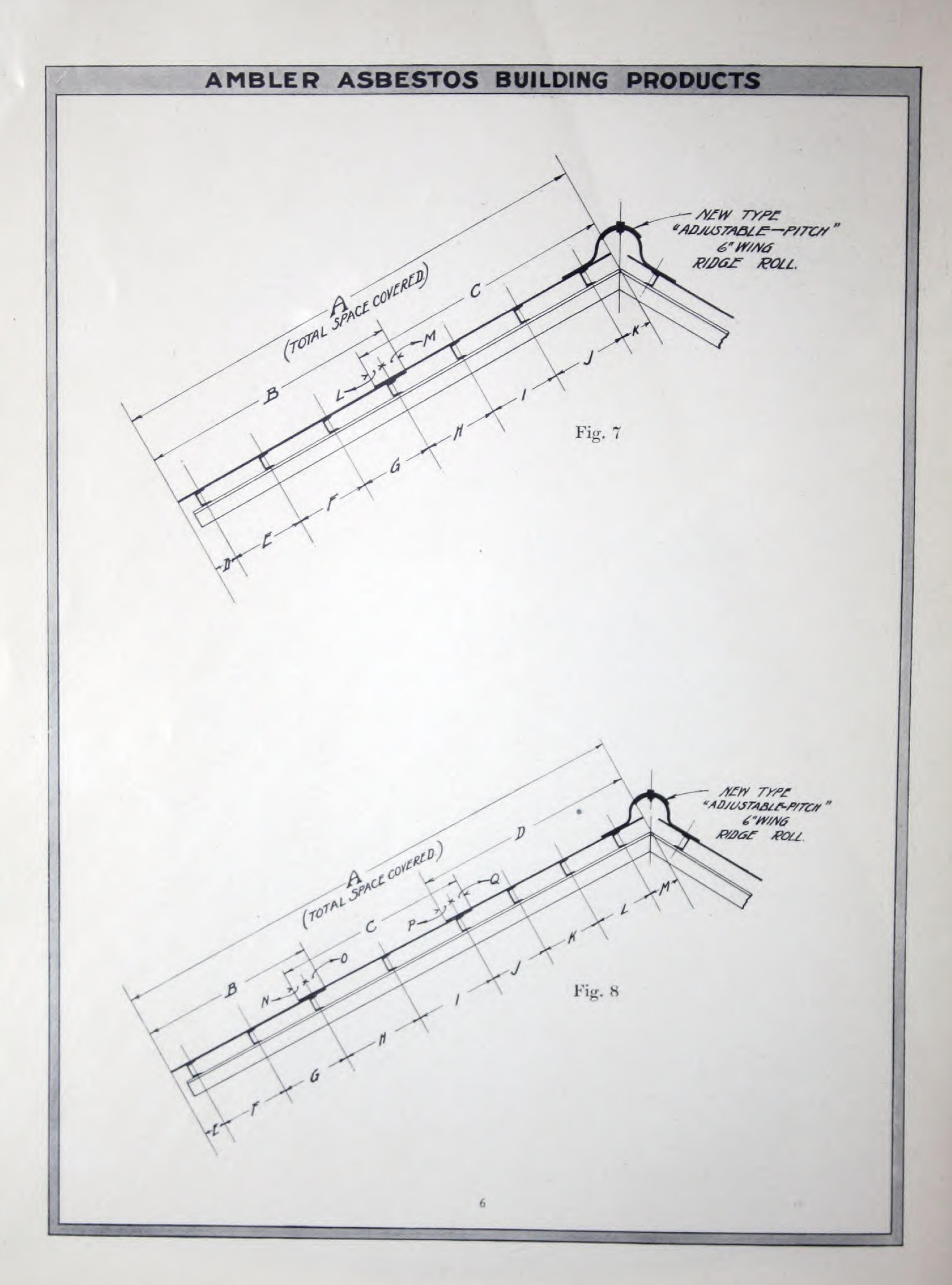
Length of Slope	Length of Sheet	Length of Sheet	Overhang at Eaves		URLIN	SPAC	ING	Overhang at Ridge	End Laps	
A	В	C	D	E	F	G	H	I	J	K
10'-6"	6'-0''	5'-0"	6''	311/2"	311/2"	251/2"	251/2"	6''	3"	3"
11'-0"	6'-0''	5'-6''*	6''	311/2"	311/2"	281/2"	281/2"	6''	3''	3''
11'-6"	6'-0''	6'-0''	6''	311/2"	311/2"	311/2"	311/2"	6''	3"	3''
12'-0''	6'-6''*	6'-0''	7"	34 "	34 "	311/2"	311/2"	6''	3"	3"

12'-6" to 14'-6"

Table of Dimensions. Fig. 6

Length of Slope		of Sheets	Over- hang at		PURL	IN SP	ACING		Over- hang at	End	Laps
A	В	C	Eaves	E	F	G	H	I	Ridge	K	L
12'-6''	8'-0"	5'-0''	6''	29"	29''	29"	251/2"	251/2"	6''	3"	3"
13'-0''	8'-0"	5'-6''*	6''	29"	29"	29"	281/2"	281/2"	6"	3"	3"
13'-6"	8'-0"	6'-0''	6''	29"	29"	29"	311/2"	311/2"	6''	3"	3"
14'-0''	9'-0"	5'-6''*	6''	33''	33''	33''	281/2"	281/2"	6''	3"	3"
14'-6"	9'-0"	6'-0''	6"	33''	33''	33''	311/2"	311/5"	6"	3"	3"

<sup>\*</sup> Supplied in sheets six inches longer than listed.



15'-0" to 17'-6"

Table of Dimensions. Fig. 7

Length of Slope	Length of Sheet	Length of Sheet	Over- hang at		PUF	RLIN	SPAC	CING		Over- hang at	End	Laps
A	В	C	Eaves	E	F	G	Н	Ι	J	Ridge K	L	M
15'-0"	8'-0"	8'-0''	6′′	28"	28"	28"	28"	28"	28"	6"	6"	6"
15'-6"	8'-0"	8'-0"	6''	29"	29"	29"	29"	29"	29"	6''	3"	3"
16'-0"	9'-0"	8'-0"	6''	32"	32"	32"	28"	28"	28"	6"	6"	6"
16'-6"	9'-0"	8'-0"	6''	33"	33''	33''	29"	29"	29"	6''	3"	3"
17'-0"	9'-0''	9'-0"	6''	32"	32"	32"	32"	32"	32"	6''	3"	3"
17'-6"	9'-0''	9'-0"	6"	33''	33''	33''	33''	33"	33"	6"	3"	3"

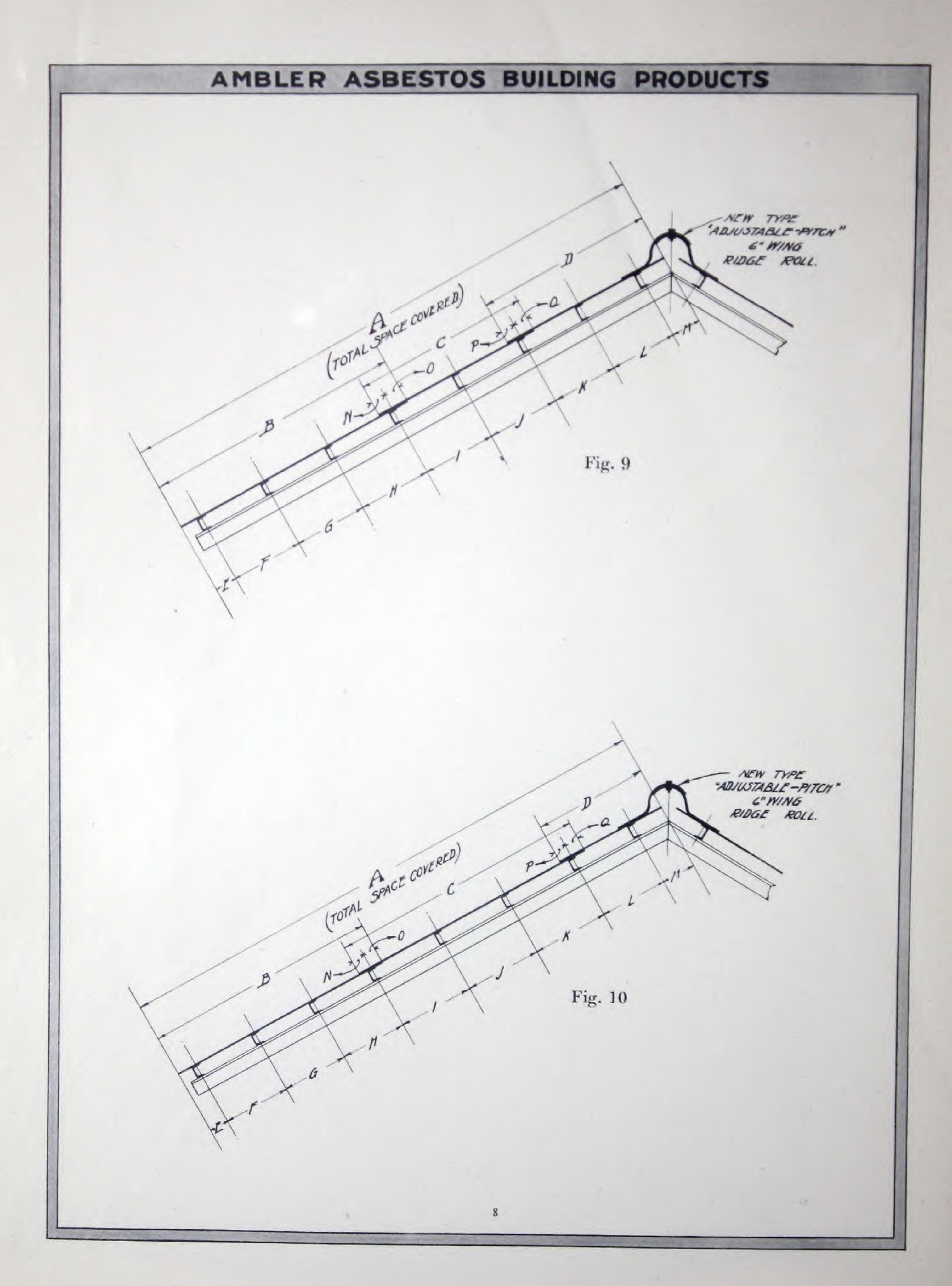
18' -0" to 18' -6"

Table of Dimensions. Fig. 8

Length of Slope	Len	gth of Sh	eets	Over- hang at		PURL	IN SPA	CING	
A	В	C	D	Eaves	F	G	Н	I	J
18'-0"	6'-0''	6'-0''	7'-0'' 8'-0''	6" 6"	311/2"	311/2"	33 "	33 "	25 " 28½"

## Table of Dimensions. Fig. 8 (Continued)

PURLIN	SPACING	Overhang at Ridge		LAPS		
K	L	M	N	0	P	Q
25 "	25 "	6"	3 "	3 "	3 "	3 "
281/2"	281/2"	6"	41/2"	41/2"	41/2"	41/2"



19'-0" to 20'-0"

Table of Dimensions. Fig. 9

Length of Slope	Len	gth of S	heet	Over- hang at Eaves		PU	RLIN S	PACINO	i i	
A	В	C	D	E	F	G	Н	I	J	K
19'-0"	9'-0"	6'-0''	5'-0"	6''	33''	33"	33''	33''	33"	251/2
19'-6"	9'-0''	6'-0''	5'-6''*	6"	33''	33''	33''	33''	33''	281/2'
20'-0''	9'-0"	6'-0"	6'-0''	6''	33''	33''	33''	33''	33''	311/2'

## Table of Dimensions. Fig. 9 (Continued)

Purlin Spacing	at Ridge		END	LAPS	
L	M	N	0	P	Q
251/2"	6''	3"	3′′	3''	3''
281/2"	6''	3"	3''	3''	3"
311/2"	6"	3''	3''	3''	3''

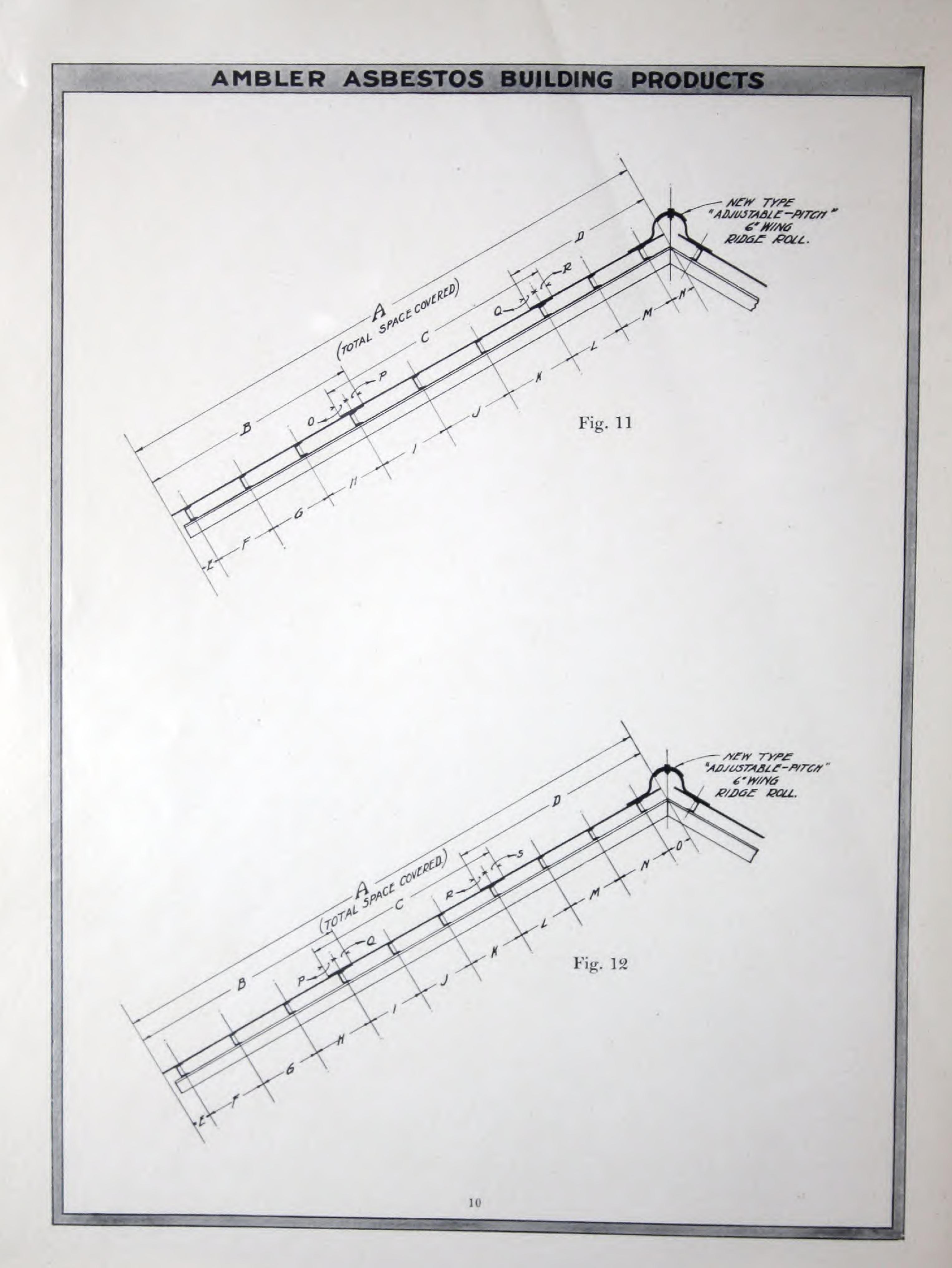
20'-6''
Table of Dimensions. Fig. 10

Length of Slope			ets	Overhang at Eaves	PUR	LIN SPAC	ING
A	В	C	D	E	F	G	Н
20'-6"	9'-0"	9'-0''	3'-6"‡	6''	33"	33"	33"

#### Table of Dimensions. Fig. 10 (Continued)

	PURLIN S	PACING		Overhang at Ridge	END LAPS					
1	J	K	L	M	N	0	P	Q		
34"	34''	34''	33"	6''	3"	3"	3"	3"		

<sup>‡</sup> Supplied in sheets of double length to be cut in two on job. \* Supplied in sheets six inches longer than listed.



21'-0" to 23'-6" Table of Dimensions. Fig. 11

Length	a de la companya de l		neets	Over- hang at	PURLIN SPACING							
A	В	C	D	Eaves	F	G	Н	I	J	K		
21'-0"	8'-0"	8'-0"	6'-0''	6''	29"	29"	29"	30′′	30"	30"		
21'-6"	9'-0"	9'-0"	4'-6";	6"	33''	33''	33''	34"	34"	34"		
22'-0"	9'-0"	9'-0"	5'-0"	6"	33''	33"	33''	34''	34"	34"		
22'-6"	9'-0"	9'-0"	5'-6"*	6''	33"	33''	33''	34''	34"	34"		
23'-0"	9'-0"	9'-0"	6'-0''	6"	33''	33''	33"	34''	34"	34"		
23'-6"	9'-0"	9'-0"	6'-6''*	6"	33"	33''	33"	34"	34"	34"		

Table of Dimensions. Fig. 11 (Continued)

PURLIN	SPACING	Overhang at Ridge		END	LAPS	
L	M	N	O	P	Q	R
311/2"	311/2"	6''	3"	3''	3"	3''
221/2"	221/2"	6''	3"	3"	3''	3"
251/2"	251/2"	6"	3"	3"	3''	3"
281/2"	281/2"	6"	3"	3"	3''	3"
311/2"	311/2"	6''	3"	3"	3"	3"
341/2"	341/2"	6"	3"	3''	3"	3"

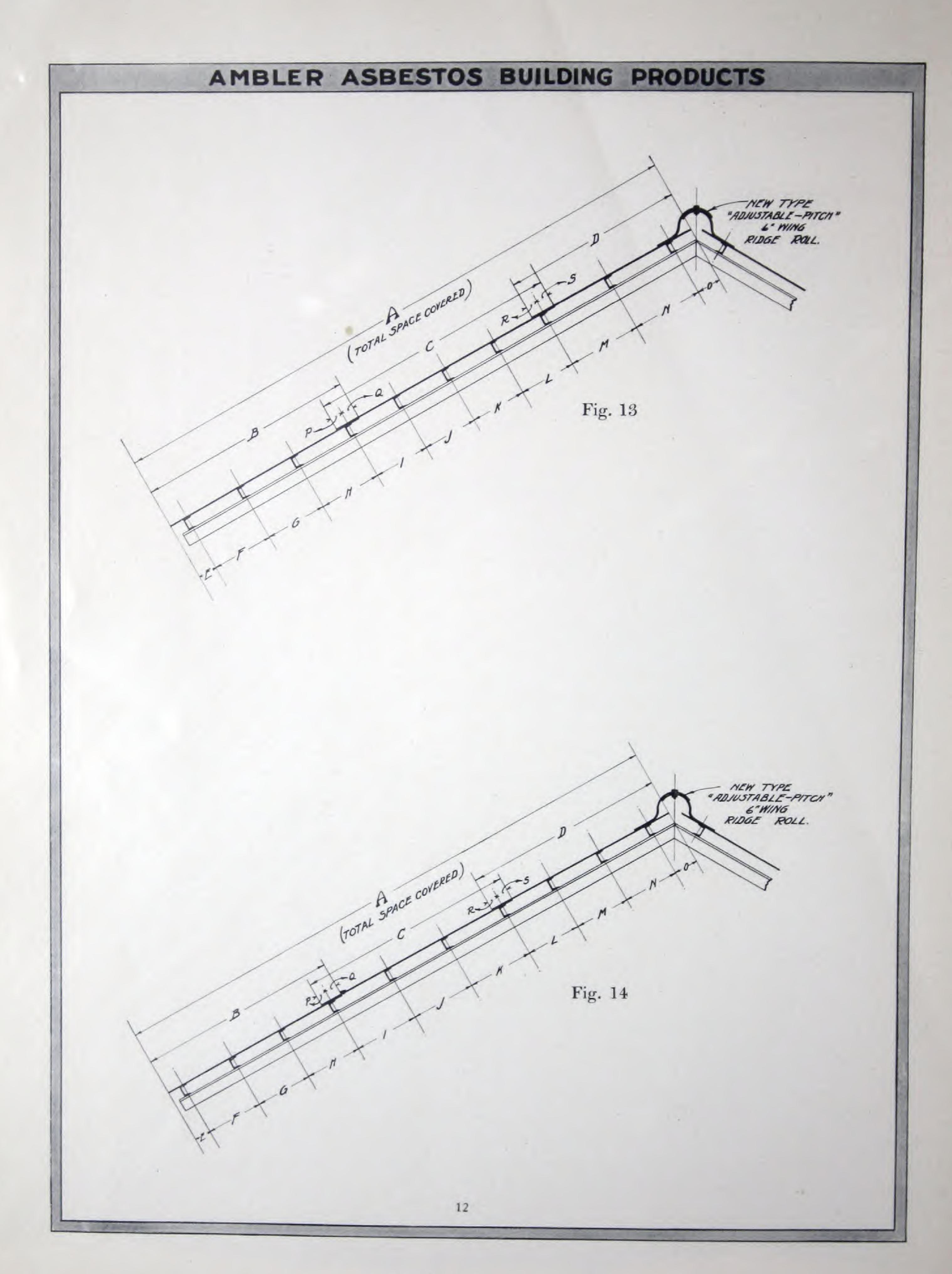
24'-0" Table of Dimensions. Fig. 12

Length of Slope					PURLIN SPACING					
A	В	C	D	E	F	G	H	I		
24'-0''	9'-0"	8'-0"	8'-0"	6"	33''	33"	33''	30"		

## Table of Dimensions. Fig. 12 (Continued)

	PURI	IN SPAC	ING		Over- hang at	END LAPS				
J	K	L	M	N	Ridge	P	Q	R	s	
30"	30"	29"	29"	29"	6"	3"	3"	3"	3"	

<sup>‡</sup> Supplied in sheets of double length to be cut in two on job. \* Supplied in sheets six inches longer than listed.



24'-6"
Table of Dimensions. Fig. 13

Length of Slope	Le	ngth of Sh	eets	Overhang at Eaves		PURLIN SPACING						
A	В	C	D	E	F	G	Н	Ι	J			
24'-6"	9'-0''	10'-0''	6'-6''*	6''	33"	33''	33''	281/2"	281/2"			

## Table of Dimensions. Fig. 13 (Continued)

	PURLIN S	SPACING		Overhang at Ridge	END LAPS					
K	L	M	N	0	P	Q	R	S		
281/2"	281/2"	341/2"	341/2"	6''	3"	3"	3''	3"		

25'-0" to 26'-0"

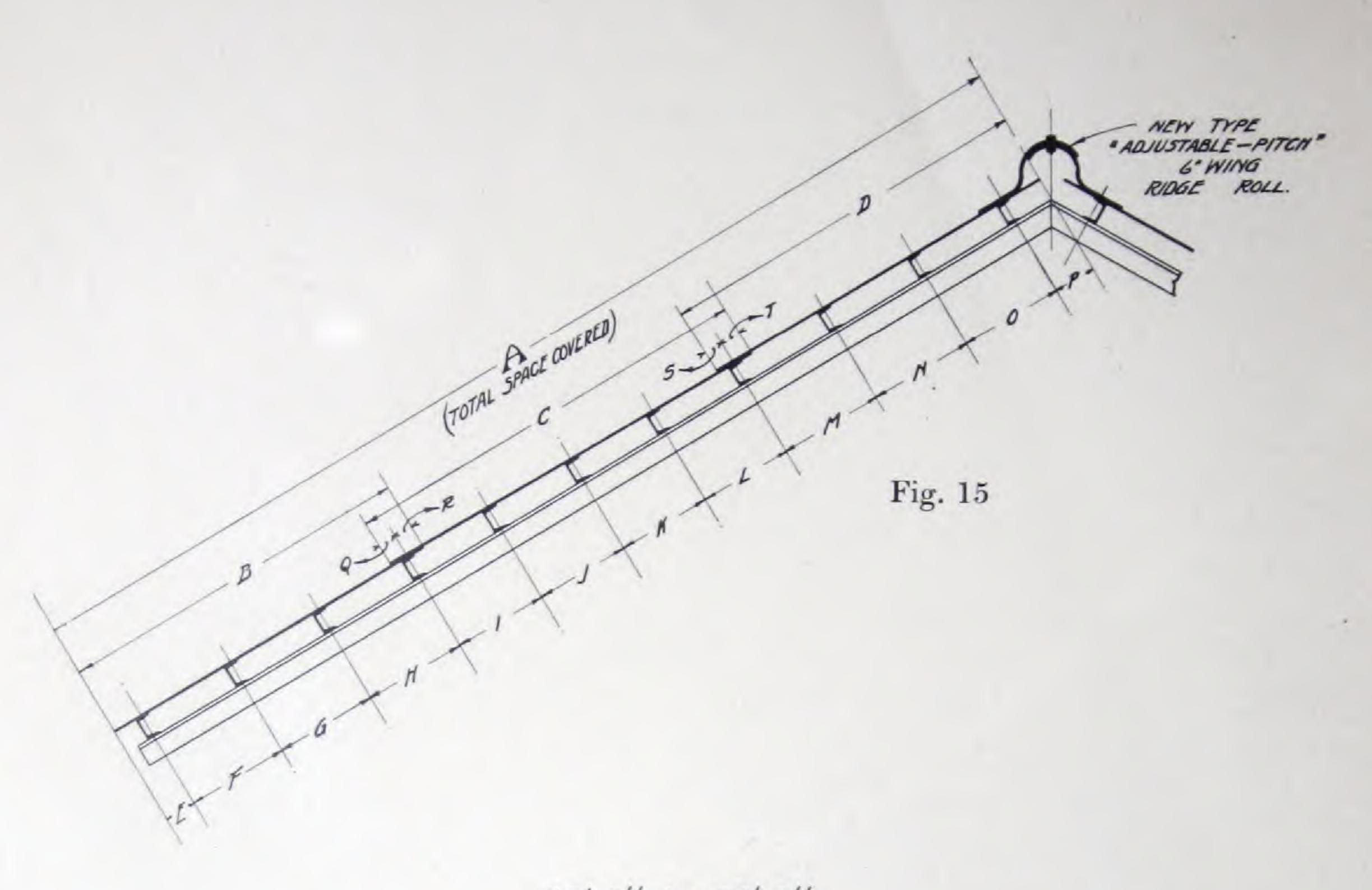
Table of Dimensions. Fig. 14

Length of Slope	Len	Length of Sheet		hang at		PURLIN SPACING							
A	В	C	D	Eaves	F	G	H	I	J	K	L		
25'-0''	9'-0''	9'-0''	8'-0"	6''	33''	33"	33"	34"	34"	34"	29"		
25'-6"	9'-0"	9'-0''	8'-6''*	6"	33''	33''	33′′	34"	34''	34"	31"		
26'-0"	9'-0''	9'-0"	9'-0''	6''	33''	33''	33''	34"	34''	34"	33"		

## Table of Dimensions. Fig. 14 (Continued)

PURLIN	SPACING	Overhang	END LAPS						
M	N	at Ridge O	P	Q	R	S			
29" 31" 33"	29" 31" 33"	6" 6"	3" 3"	3" 3"	3" 3"	3" 3"			

<sup>\*</sup> Supplied in sheets six inches longer than listed.



26'-6" to 27'-0"

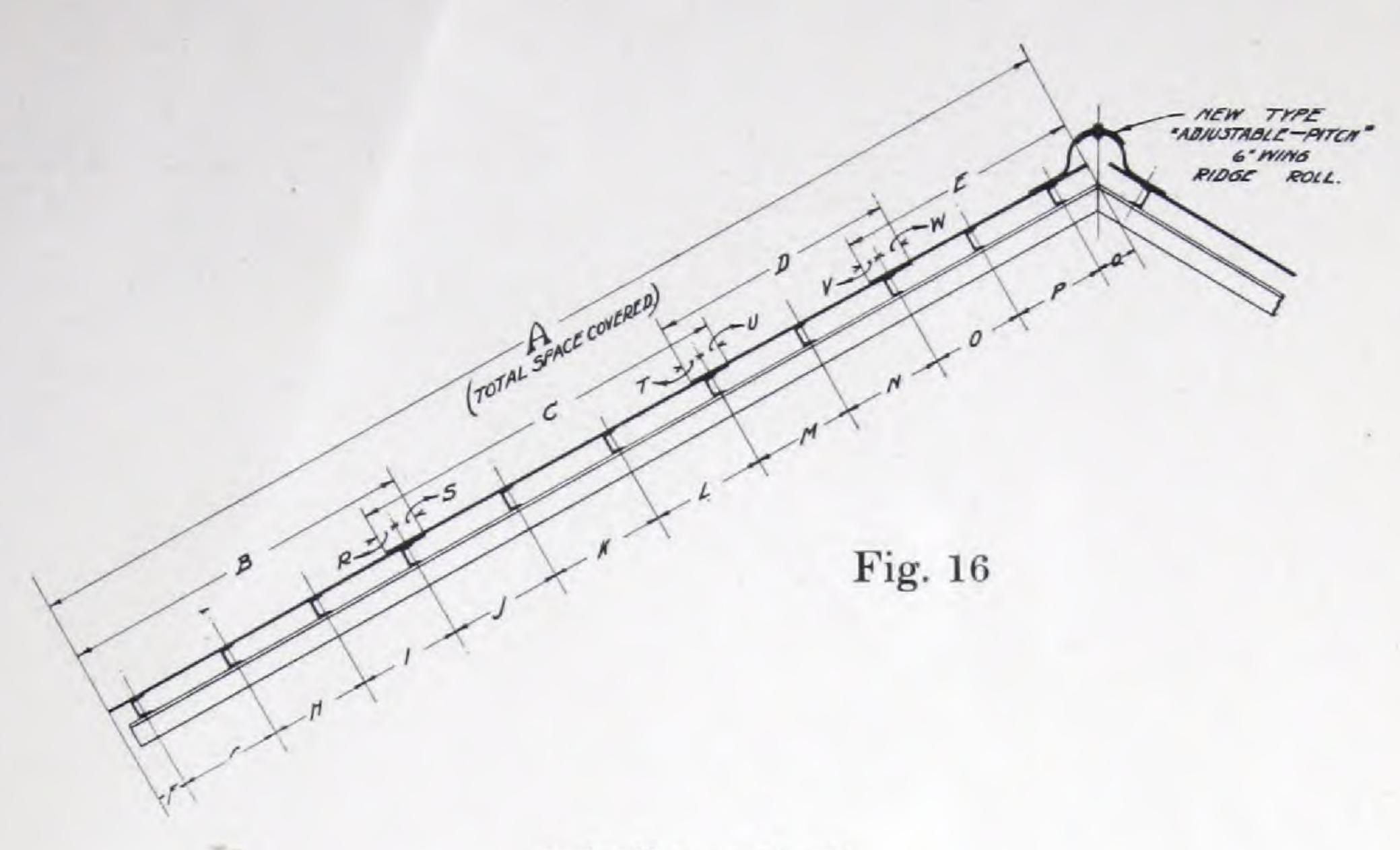
Table of Dimensions. Fig. 15

Length of Slope			eet	Overhang at Eaves		PURLIN SPACING						
A	В	C	D	E	F	G	Н	Ι	J			
26'-6"	9'-0"	9'-6''*	9'-0"	6''	33"	33''	33''	27 "	27 "			
27'-0"	9'-0"	10'-0"	9'-0"	6''	33''	33"	33''	281/2"	281/2"			

Table of Dimensions. Fig. 15 (Continued)

	PUR	LIN SPA	CING		Overhang at Ridge	END LAPS				
K	L	M	N	0	P	Q	R	S	Т	
27 "	27 "	33''	33''	33''	6''	3"	3''	3''	3"	
281/2"	281/2"	33''	33"	33''	6"	3"	3"	3"	3"	

<sup>\*</sup> Supplied in sheets six inches longer than listed.



27'-6" to 29'-0"
Table of Dimensions. Fig. 16

Length Of Slope							P	URLIN	SPAC	ZINĞ	
A	В	C	D	E	F	G	Н	Ι	J	K	L
27'-6"	9'-0"	9'-0"	6'-0''	5'-0''	6''	33''	33"	33"	34"	34''	34''
28'-0"	9'-0"	9'-0''	6'-0''	5'-6''*	6''	33''	33''	33''	34''	34''	34''
28'-6"	9'-0''	9'-0"	6'-0''	6'-0''	6"	33''	33''	33''	34''	34''	34"
29'-0"	9'-0"	9'-0"	6'-0"	6'-6''*	6''	33''	33''	33"	34''	34"	34"

Table of Dimensions. Fig. 16 (Continued)

I	PURLIN	SPACIN	G	Overhang at Ridge		E	ND LA	APS		
M	N	0	P	Q	R	S	Т	U	V	W
33''	33''	251/2"	251/2"	6"	3"	3"	3"	3"	3"	3'
33''	33''	281/2"	281/2"	6''	3''	3"	3''	3"	3"	3"
33''	33"	311/2"	311/2"	6"	3"	3"	3''	3"	3"	3"
33"	33''	341/2"	341/2"	6"	3"	3"	3"	3"	3"	3"

<sup>\*</sup> Supplied in sheets six inches longer than listed.

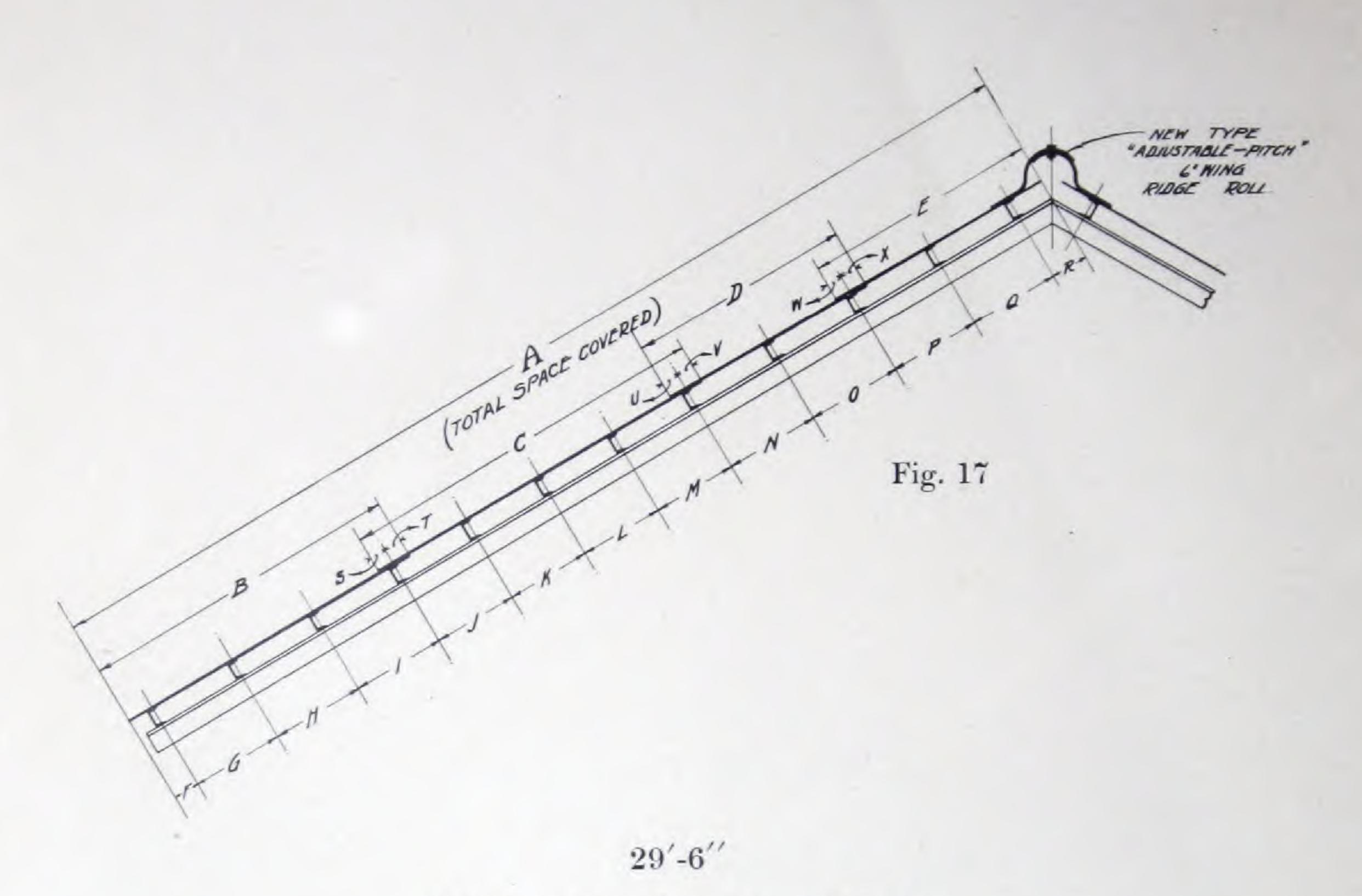
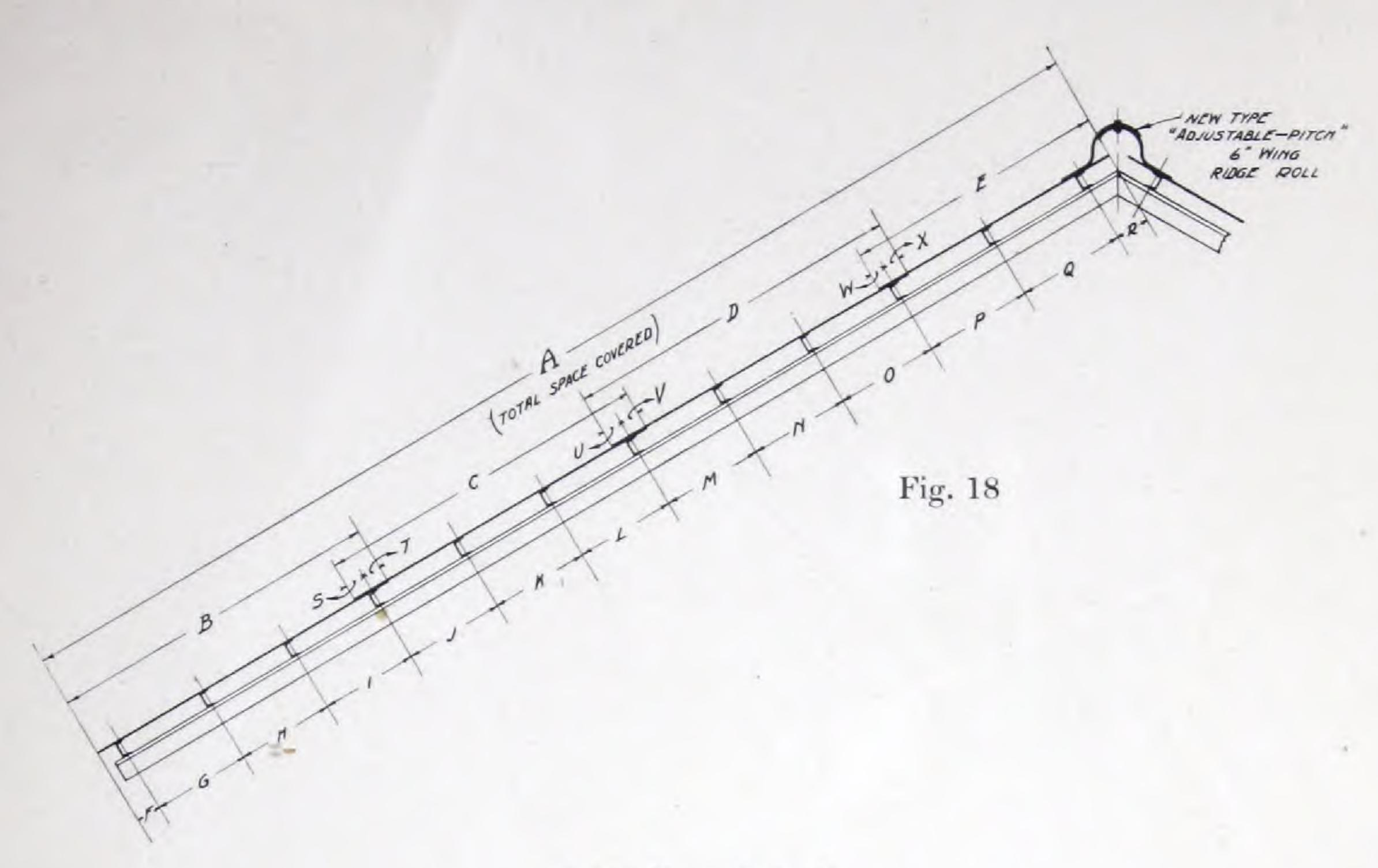


Table of Dimensions. Fig. 17

Length of Slope			of Sheet		Over- hang at Eaves		PU	RLIN	SPACI	NG	
A	В	C	D	E	F	G	Н	I	J	K	L
29'-6"	9'-0"	10'-0"	6'-0''	6'-0''	6''	33''	33''	33''	281/2"	281/2"	281/2"

Table of Dimensions. Fig. 17 (Continued)

PURLIN SPACING					Over- hang at Ridge			ENI	LAPS	,	
M	N	0	P	Q	R	S	Т	U	V	W	X
281/2"	33''	33''	311/2"	311/2"	6''	3"	3"	3''	3''	3"	3"



30'-0" to 32'-0"

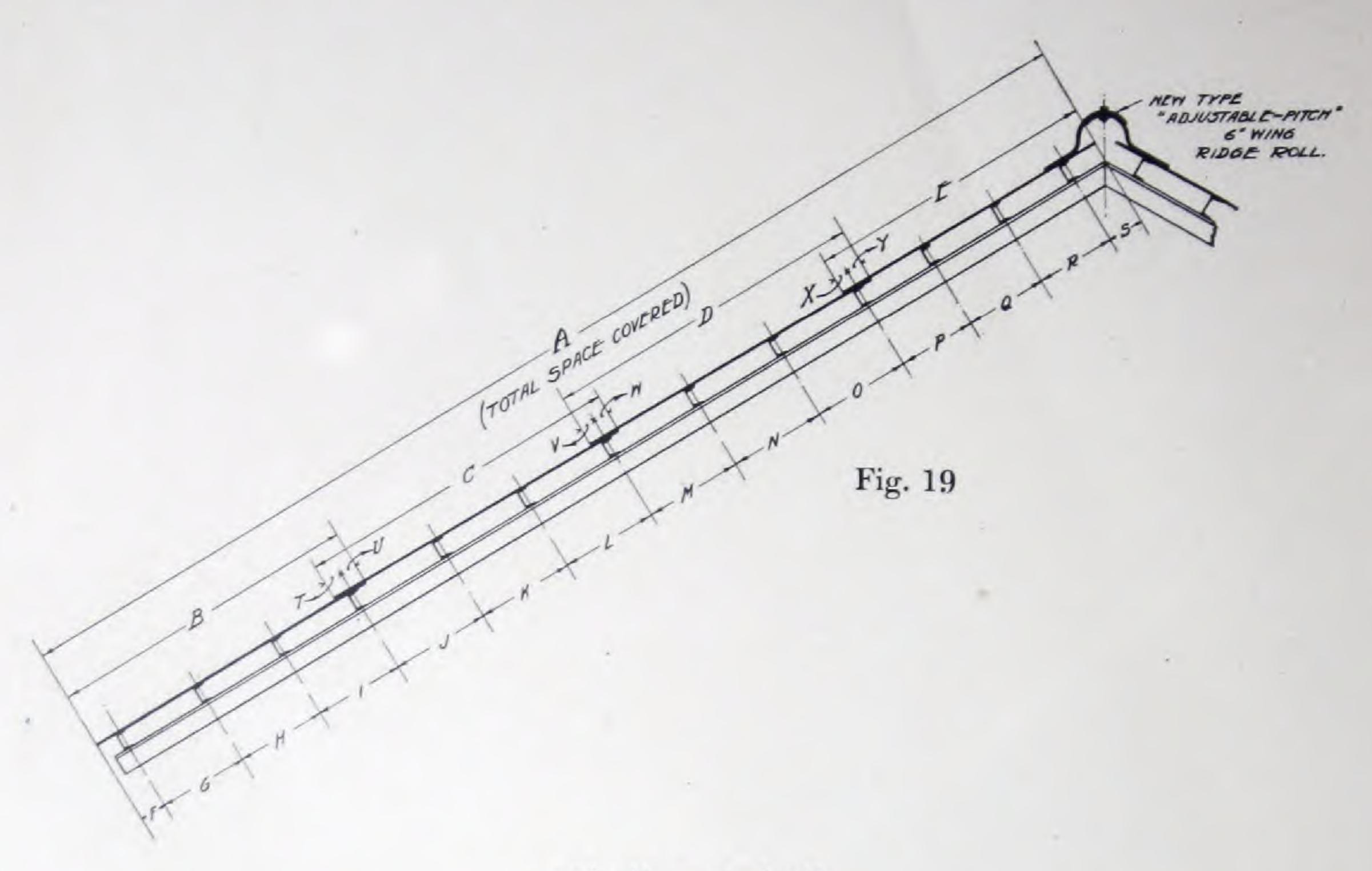
Table of Dimensions. Fig. 18

Length of Slope	Length of Sheet				of Sheet Over- hang at Eaves				PURLIN SPACING					
A	В	C	D	E	F	G	Н	I	J	K	L			
30'-0"	9'-0''	9'-0"	9'-0"	4'-6"	6''	33''	33''	33''	34''	34"	34"			
30'-6"	9'-0"	9'-0"	9'-0"	5'-0"	6''	33"	33''	33''	34''	34"	34"			
31'-0"	9'-0"	9'-0"	9'-0"	5'-6''*	6''	33''	33''	33''	34"	34''	34"			
31'-6"	9'-0"	9'-0"	9'-0"	6'-0''	6''	33"	33''	33''	34''	34"	34"			
32'-0"	9'-0"	9'-0"	9'-0"	6'-6''*	6''	33"	33''	33''	34"	34''	34"			

#### Table of Dimensions. Fig. 18 (Continued)

	PURLI	N SPA	CING	Over- hang at Ridge			END	LAPS			
M	N	0	P	Q	R	S	T	U	V	W	X
34"	34"	34"	221/2"	221/2"	6''	3"	3"	3"	3"	3"	3'
34"	34"	34"	251/2"	251/2"	6''	3"	3''	3''	3"	3"	3
34"	34"	34"	281/2"	281/2"	6''	3"	3"	3"	3"	3"	3'
34"	34''	34"	311/2"	311/2"	6''	3"	3"	3"	3"	3"	3'
34"	34"	34"	341/2"	341/2"	6"	3"	3"	3"	3"	3"	3'

<sup>‡</sup> Supplied in sheets of double length to be cut in two on job. \* Supplied in sheets six inches longer than listed.



32'-6" to 35'-0"
Table of Dimensions. Fig. 19

Length of Slope		Length o	f Sheet		Over- hang at Eaves		PUI	RLIN S	PACIN	IG.	
A	В	C	D	E	F	G	Н	I	J	K	L
32'-6"	9'-0"	9'-0"	9'-0"	7'-0"	6"	33''	33''	33''	34"	34''	34"
33'-0"	9'-0"	9'-0"	9'-0"	7'-6''*	6''	33''	33''	33''	34"	34"	34"
33'-6"	9'-0"	9'-0"	9'-0"	8'-0"	6"	33"	33''	33''	34"	34"	34"
34'-0"	9'-0"	9'-0"	9'-0"	8'-6"*	6"	33"	33''	33"	34"	34"	34"
34'-6"	9'-0"	9'-0"	9'-0"	9'-0"	6"	33''	33''	33''	34''	34"	34"
35'-0"	9'-6"*	9'-0"	9'-0"	9'-0"	6"	34"	34"	34''	34''	34"	34"

Table of Dimensions. Fig. 19 (Continued)

	PURLIN SPACING								END	LAPS		
M	N	0	P	Q	R	Ridge	T	U	V	W	X	Y
34"	34"	34"	25"	25"	25"	6"	3"	3''	3''	3"	3"	3"
34"	34"	34"	27"	27"	27"	6"	3"	3"	3"	3"	3"	3"
34''	34"	34"	29"	29"	29"	6"	3"	3"	3"	3"	3"	3'
34"	34"	34''	31"	31"	31"	6"	3"	3"	3"	3"	3"	3"
34"	34"	34"	33"	33"	33"	6"	3"	3"	3"	3"	3"	3"
34"	34"	34''	34"	34"	34"	6"	3"	3"	3"	3"	3"	3"

<sup>\*</sup> Supplied in sheets six inches longer than listed.

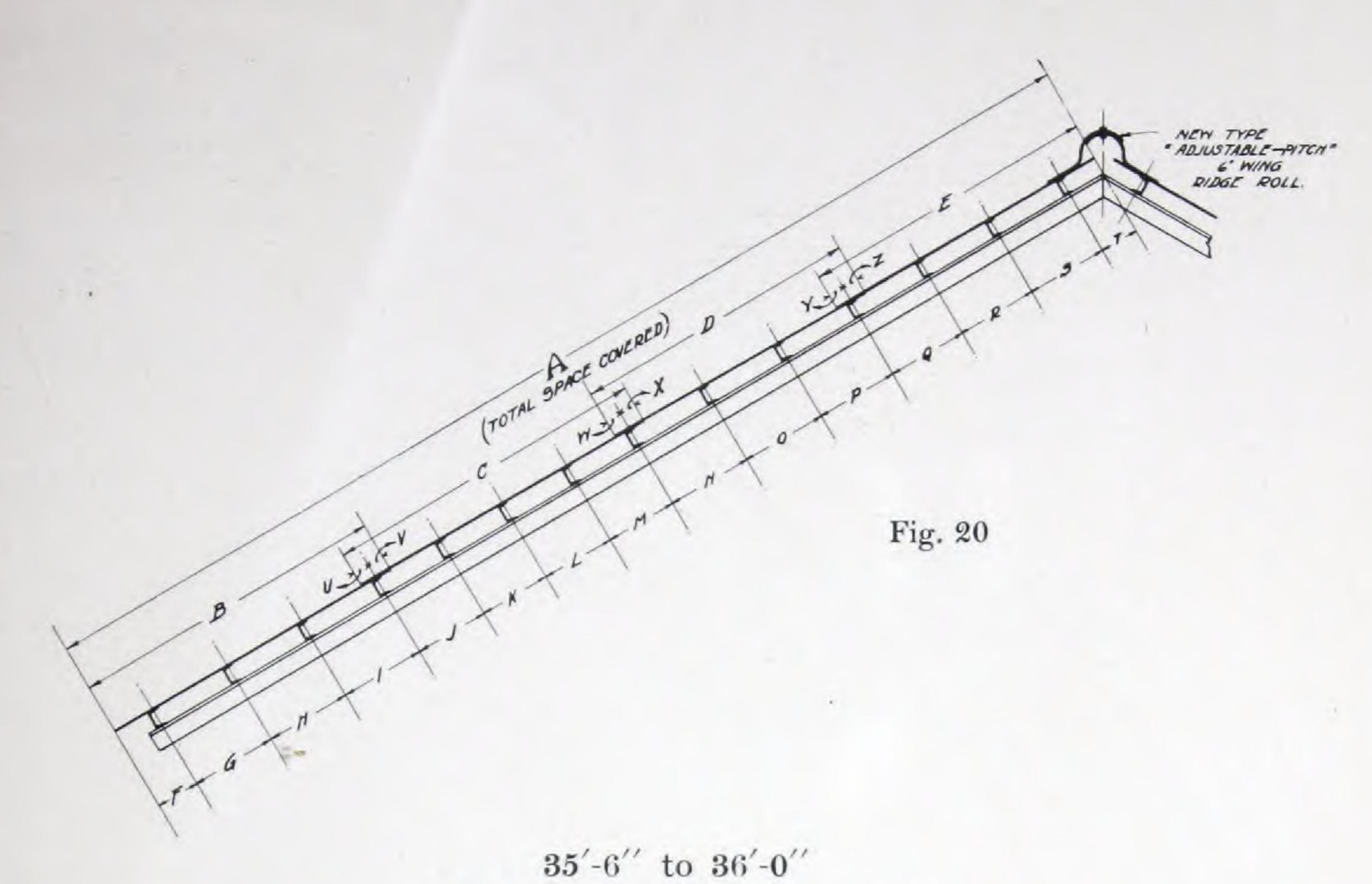


Table of Dimensions. Fig. 20

Length of Slope		Length	of Sheet		Over- hang at Eaves	PURLIN SPACING						
A	В	C	D	E	F	G	H	I	J	K		
35'-6" 36'-0"	9'-0"*	10'-0'' 10'-0''	9'-0"	9'-0"	6" 9"	33'' 34''	33'' 34''	33'' 34''	281/2"	28½" 28½"		

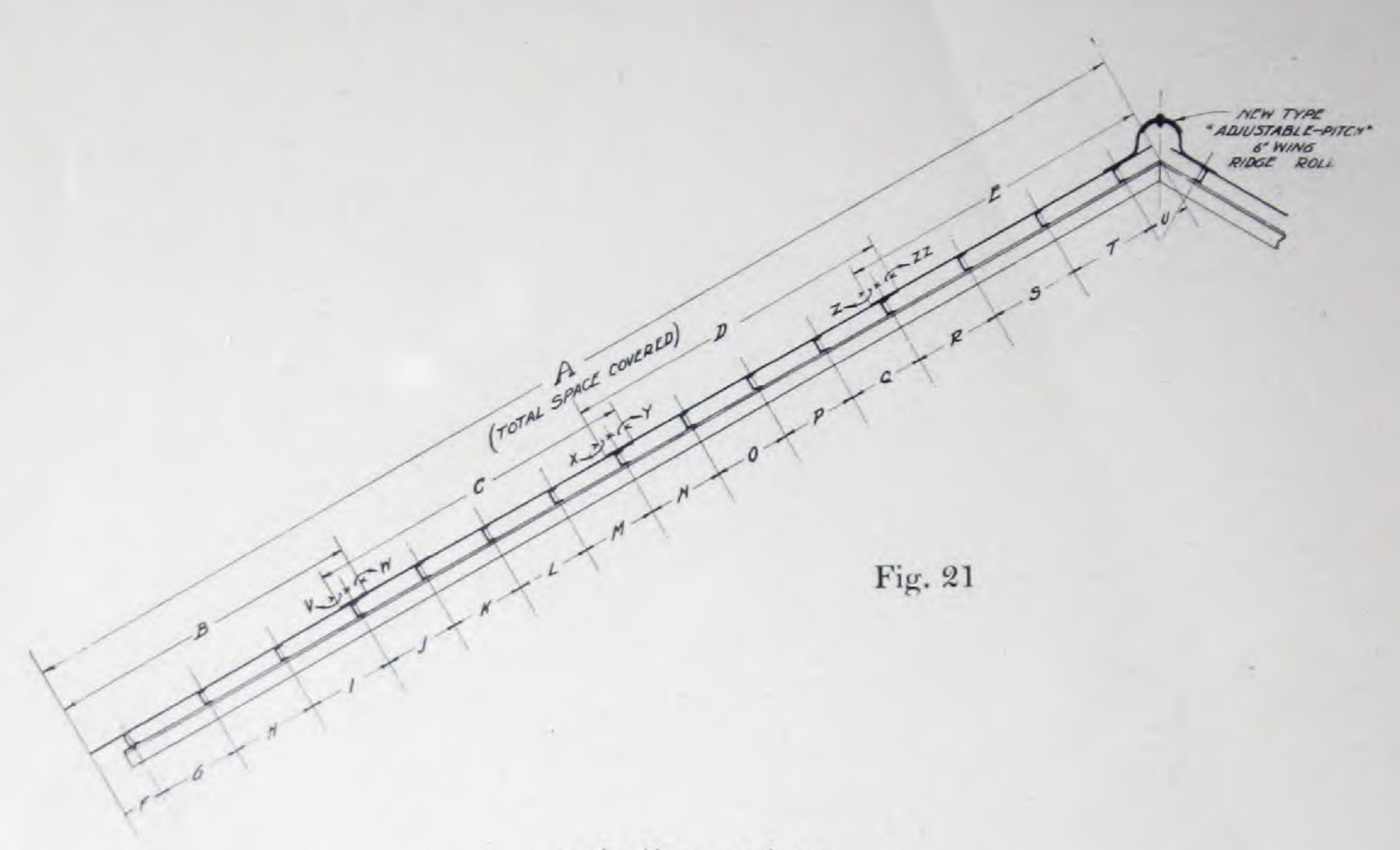
Table of Dimensions. Fig. 20 (Continued)

		PURLIN SPACING  Over- hang at Ridge  Ridge							LAPS	
L	M	N	0	P	Q	R	S	T	U	V
281/2"	28½" 28½"	34'' 34''	34" 34"	34'' 34''	33''	33"	33'' 33''	6" 6"	3"	3"

Table of Dimensions. Fig. 20 (Continued)

	END	LAPS		
W	X	Y	Z	
3" 3"	3" 3"	3"	3"	

<sup>\*</sup> Supplied in sheets six inches longer than listed.



36'-6" to 37'-0" Table of Dimensions—Fig. 21

Length		Length	of Sheet		Overhang	PURLIN SPACING				
of Slope A	В	C	D	E	at Eaves F	G	Н	I	J	
36'-6" 37'-0"	9'-0 9'-6''*	10'-0'' 10'-0''	10'-0'' 10'-0''	9'-0"	6" 9"	33''	33''	33''	281/2"	

Table of Dimensions. Fig. 21 (Continued)

#### PURLIN SPACING N 0 Q 281/2" 2812" 33" 281/2" 281/2" 33" 281/2" 281/2" 281/2" 33" 33" 33"

## Table of Dimensions. Fig. 21 (Continued)

Overhang at Ridge			END	LAPS		
U	V	W	X	Y	·Z	ZZ
6"	3"	3"	3"	3''	3"	3"
6"	3"	3"	3"	3"	3"	3"

<sup>\*</sup> Supplied in sheets six inches longer than listed.

M

281/2"

281/2"

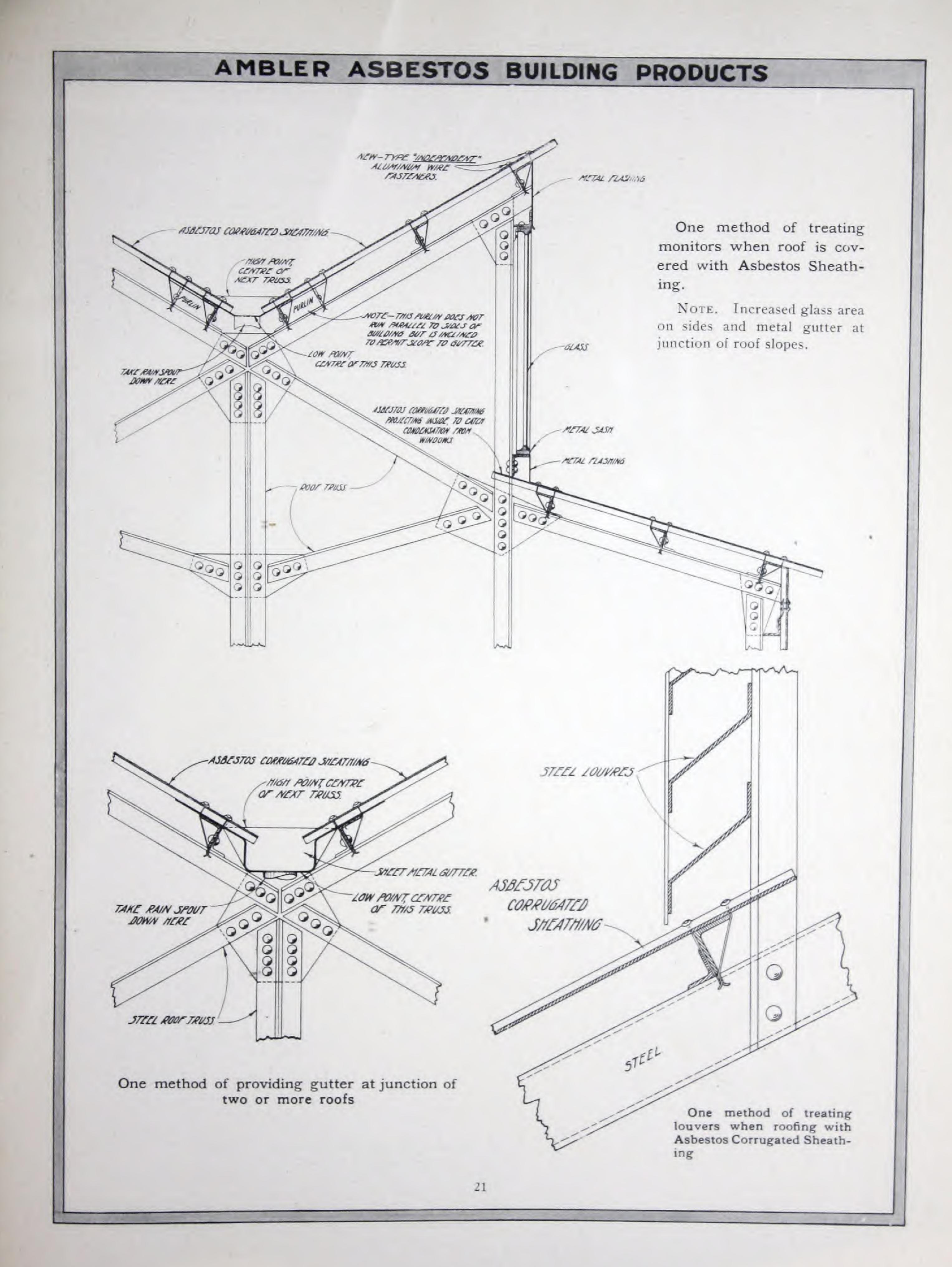
K

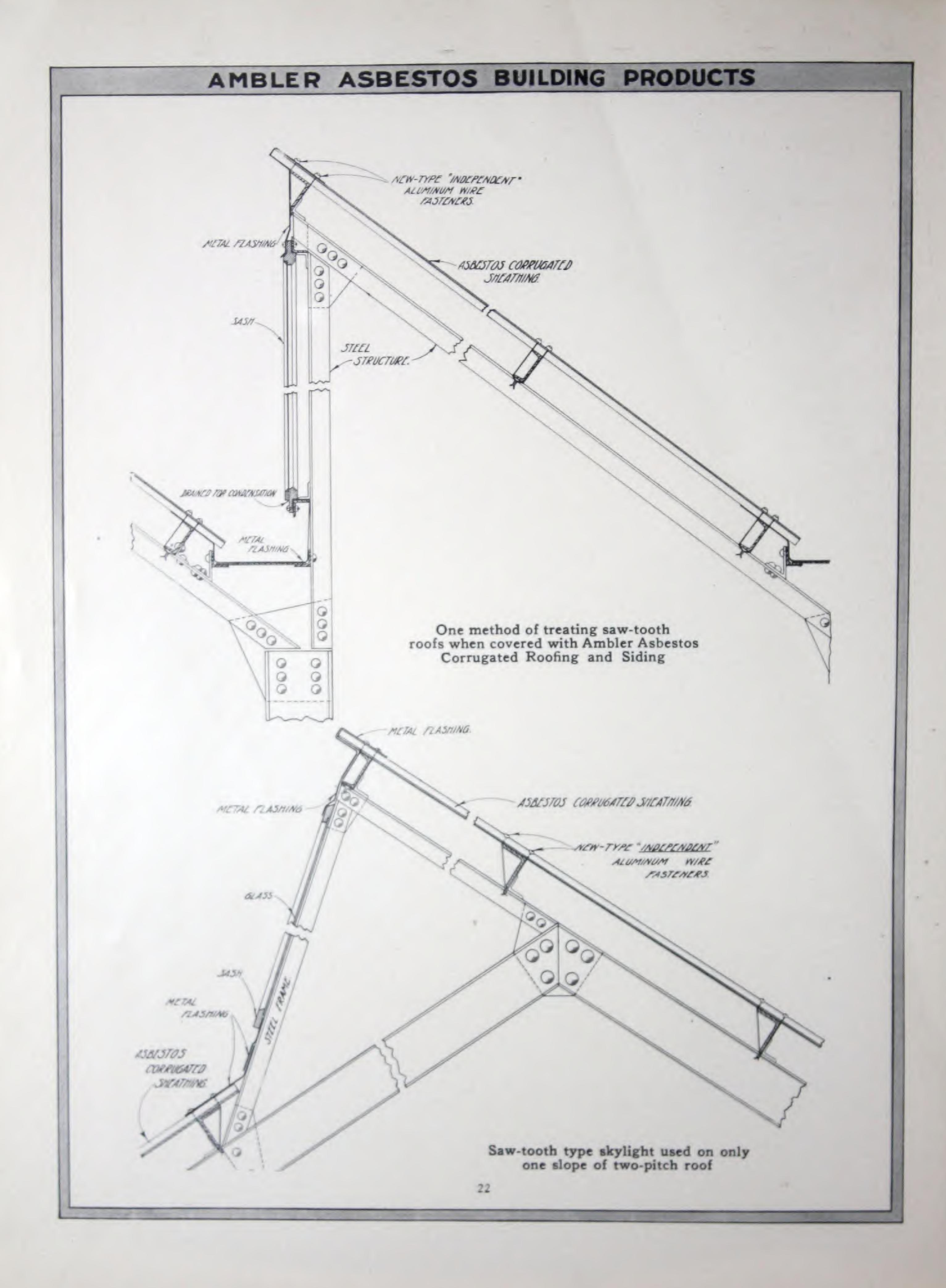
2812"

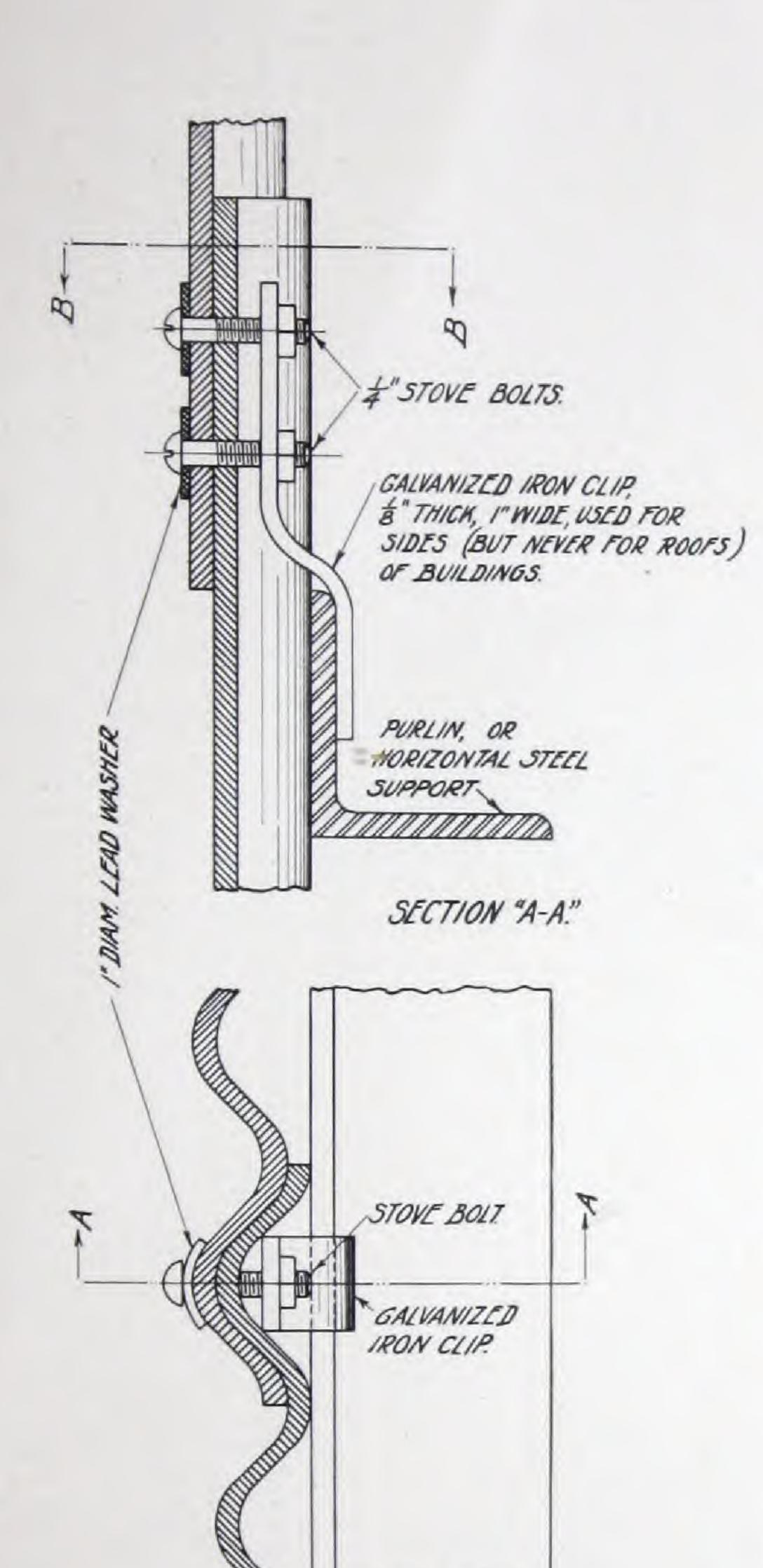
2812"

L

281/2"



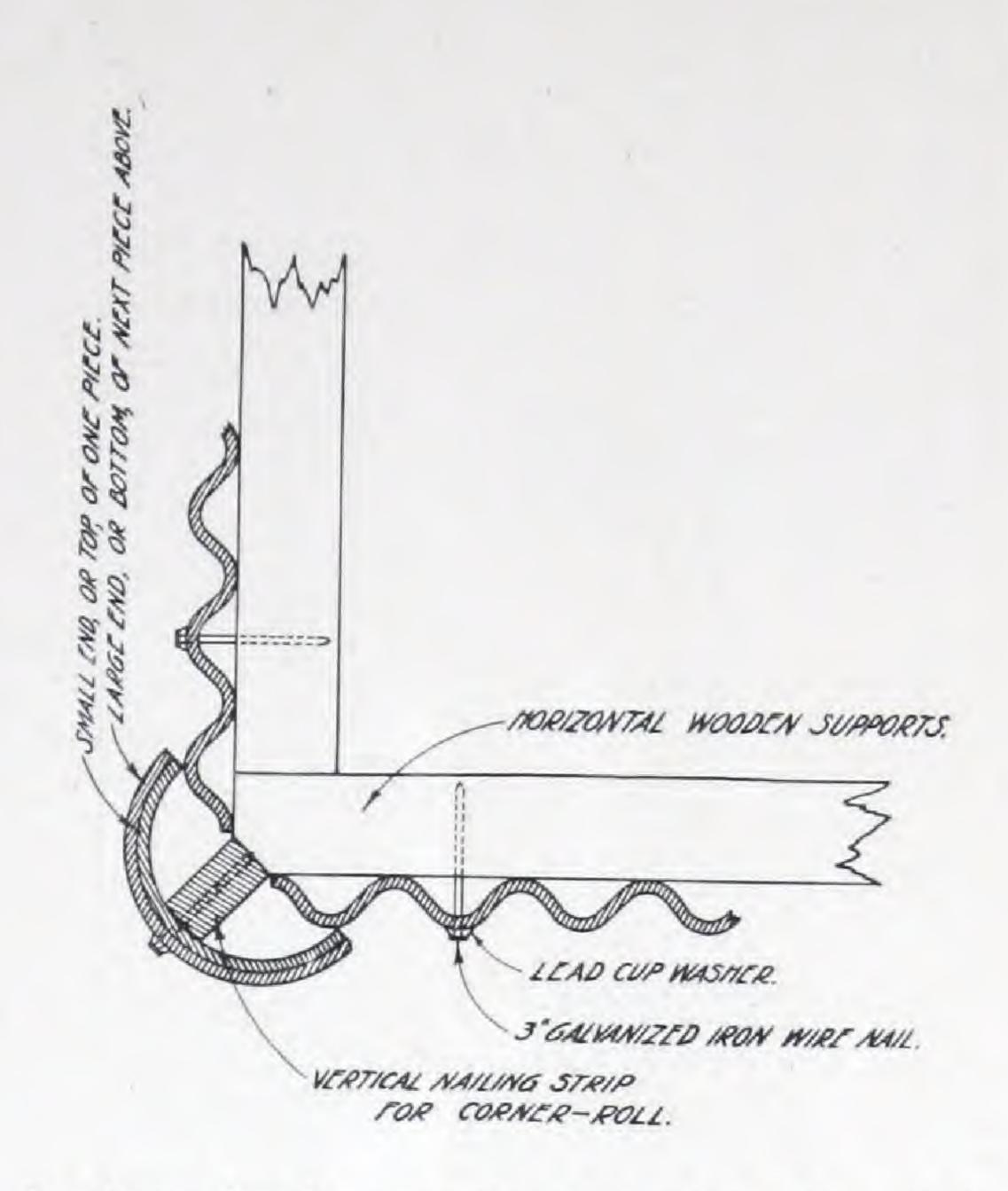




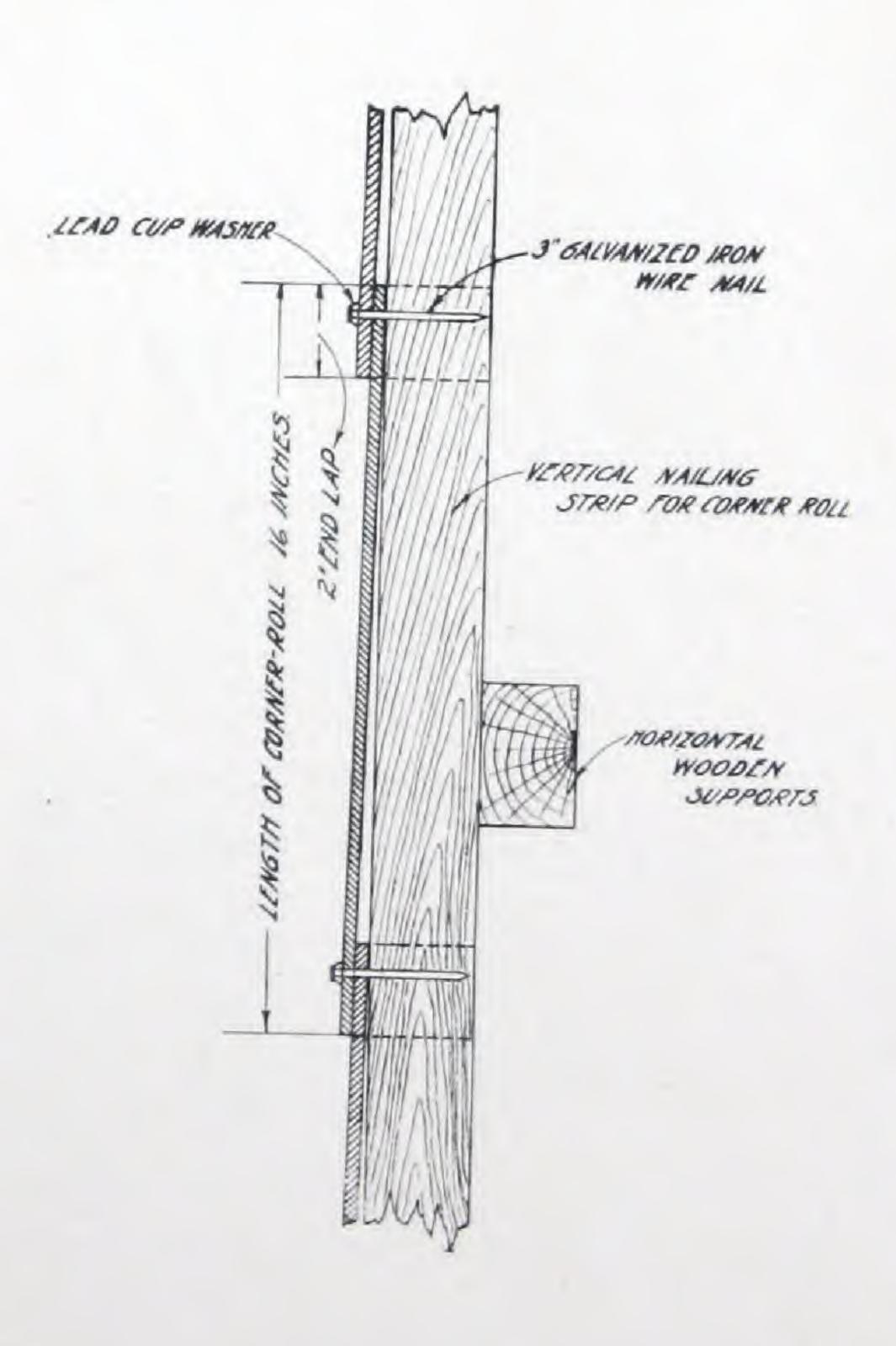
PLAN "B-B"

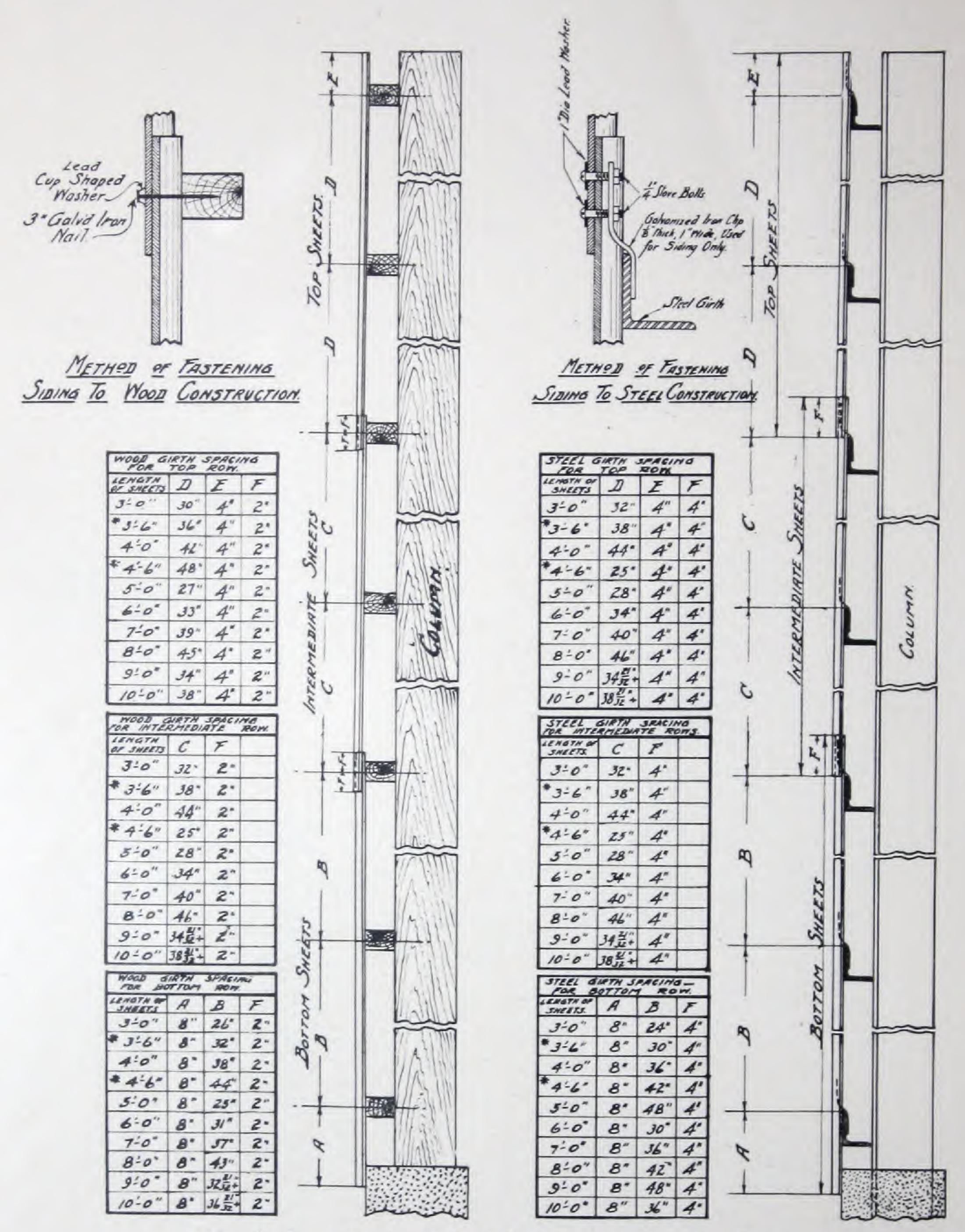
# Standard Galvanized Iron Clip-Its Application

Notice. To use this standard clip, the vertical leg of the girth must be on the outer side of building and must point upwards as shown.



Sections showing use of ordinary 16 in. length Corner Roll for finishing corners of buildings, when Ambler Asbestos Corrugated Roofing and Siding is employed for siding.

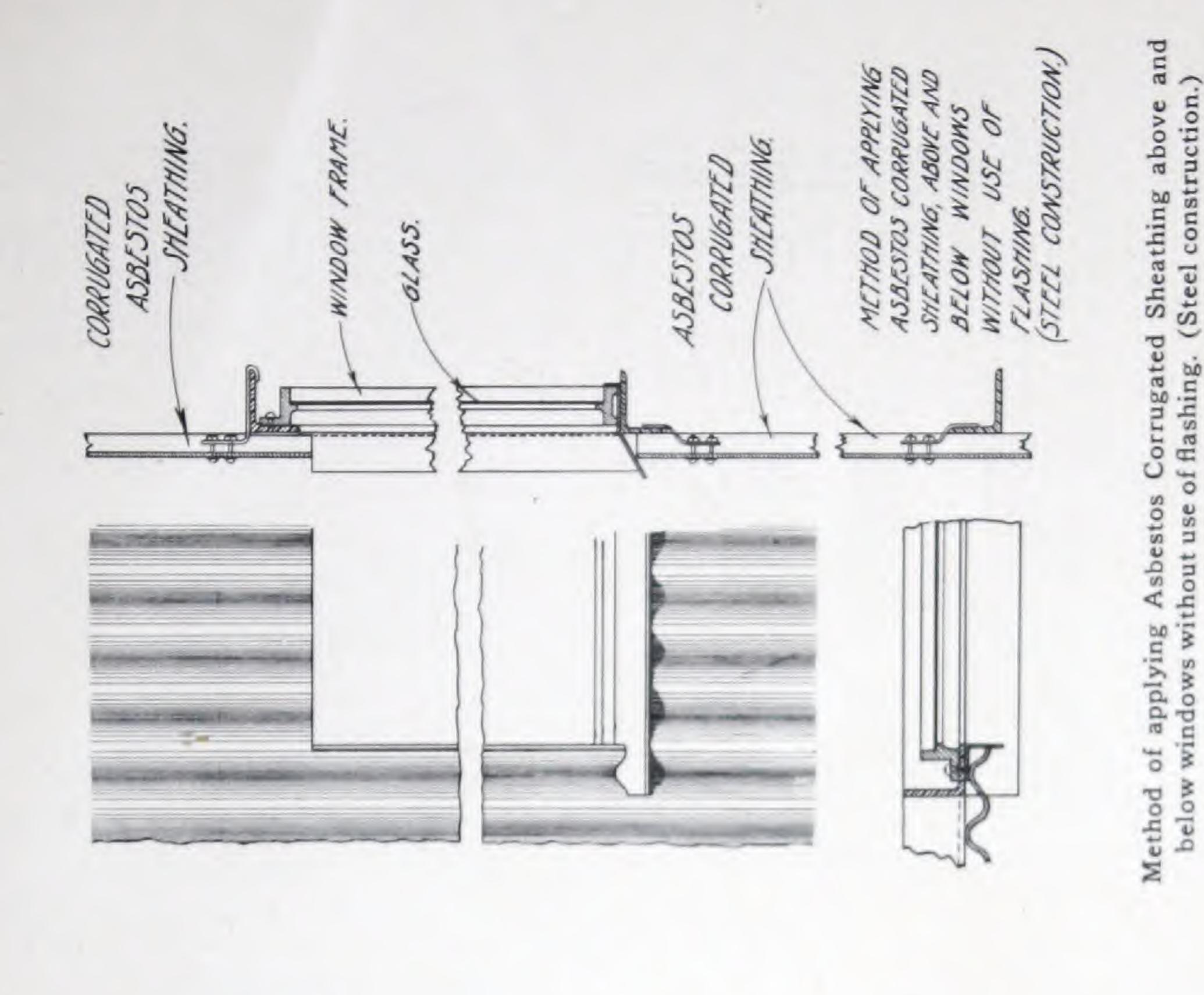




\*Supplied in sheets of double length to be cut in two on job.

Showing difference in arrangement for wood and steel construction Sections of Side of Building

Notice.—In steel construction the measurements are taken to tops of girths, and in wood construction the measurements are always taken from center to center of girths.



(Wood construction.) windows without use of flashing. Method

of applying Asbestos Corrugated Sheathing above and

ASBESTOS CORRUGATED SHEATHING, ABOVE AND

## Ambler Asbestos Reinforced Concrete— The Permanent and Non-Combustible Building Material

Portland or hydraulic cement is permanent, insoluble and weather and fire resisting, but due to its low tensile strength it has been widely used only when reinforced or in massive construction. Layers, sheets or plates of cement must necessarily be reinforced, but metallic reinforcement is not practicable for thin sheets, as water and air will somewhere come in contact with and corrode the iron or steel.

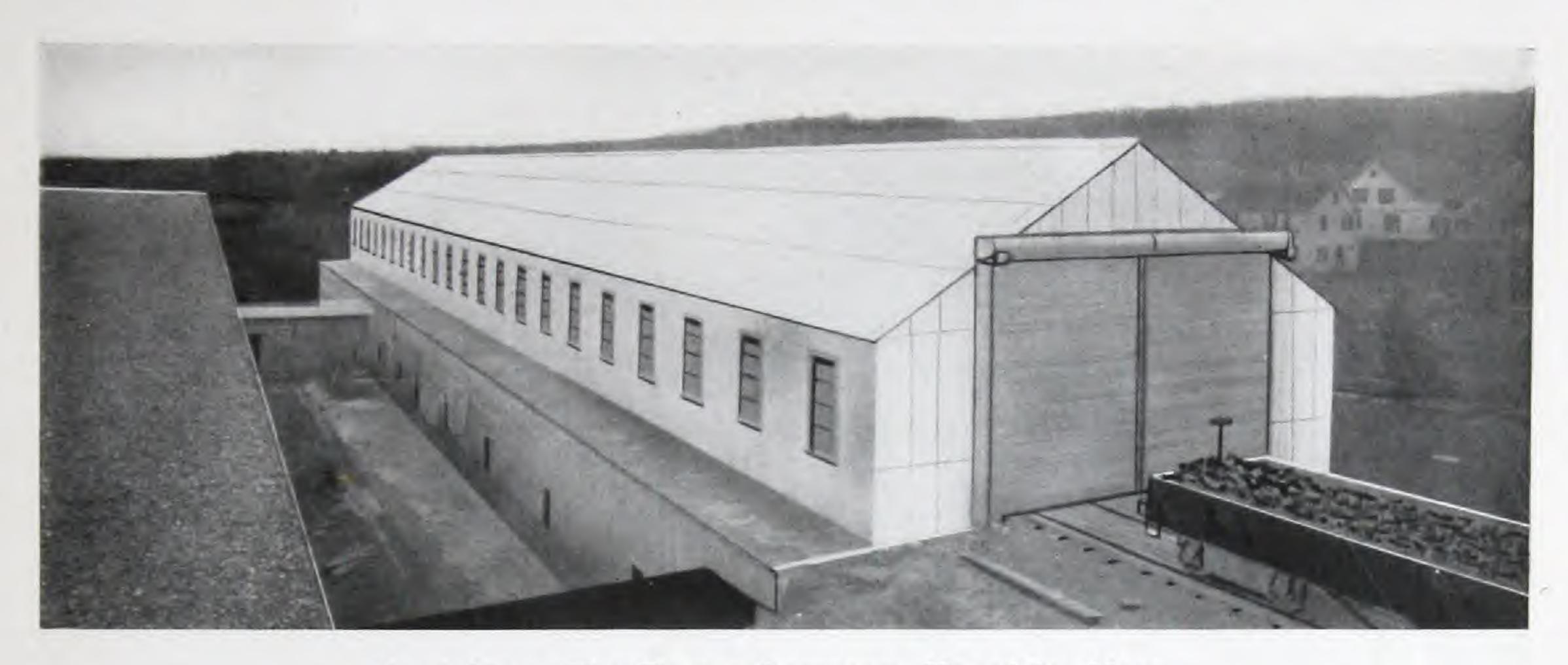
In seeking to adapt hydraulic cement to the formation of light sheets or slabs for building purposes, Ludwig Hatschek, an Austrian asbestos worker, hit upon the idea of using asbestos fiber as the reinforcing material. His patents are now worked extensively in all civilized countries, the Hatschek plants in Austria alone turning out each year more than one hundred million square feet of this asbestos concrete roofing material.

Asbestos is a fibrous, hydrated silicate of magnesia, found in considerable quantities as veins in the serpentine rocks of the Province of Quebec and in some other mountainous districts. The better qualities, as found at Thetford, P. Q., are exceedingly fine, tough and flexible, and have a tensile strength of about 25 tons per square inch. A beautiful representation of the finest quality as it comes from the mines is shown in our circular describing Ambler Asbestos Building Lumber.



Applying Ambler Asbestos Corrugated Roofing on Steel Structure

In order to develop the greatest reinforcing action from asbestos in cement sheets, the fibers must be uniformly distributed; that is, not bunched, should point in all directions, and each individual fiber should be in contact over its entire surface with the hydraulic cement colloids, which then become perfectly and uniformly hydrated. The following paragraphs describe how these results are secured in the manufacture of Ambler Asbestos Building Products.



Sand Bins-The Draper Company, Hopedale, Mass. Covered with Ambler Asbestos Corrugated Roofing and Siding

## Process of Manufacture Used at Ambler

Hatschek's method for incorporating the asbestos reinforcement is the important feature of this process. The ordinary method of mixing the material dry and adding water afterward does not give the desired results, as the immediate effect of a small amount of water is, by the action of surface tension, to draw the asbestos aggregate and the cement particles together into groups or balls. The cement is thus prevented from reaching all the fibers and the cement particles themselves become coated and compacted into small masses, excluding all but a very small percentage of water from between the particles, while a highly supersaturated gelatinous layer is formed of the more accessible portions of the cement on the outside. The imperfectly wetted mixture therefore comes to consist mainly of unhydrated cement bound together by a net work of more perfectly hydrated cement "gels." As stated by Mr. Nathan C. Johnson, the cement expert, mixing with a limited amount of water produces a "colloidal boundary," which, entirely surrounding such masses, operates to prevent further hydration by reason of its constituting an impervious envelope or skin through which water cannot pass. The close grouping thus produced admits of the presence of only a small quantity of water between the particles, far too little to satisfy the chemical and physical requirements of the cement, and further water attack is prevented by the colloid envelope.



Shenango Furnace Company, Sharpsville, Pa.

Ambler Asbestos Corrugated Roofing Applied on Steel Roof Trusses

The difficulties just described are effectively overcome in Hatschek's process as carried out at Ambler. Hydraulic cement of a high and uniform grade is first thoroughly mixed with water and asbestos fiber of the chrysotile variety, in a beating engine similar to that employed in the manufacture of paper pulp. The prolonged, vigorous mixing and agitation to which the materials are here subjected results in the formation of a uniform pulp, having the properties of a colloidal diffusion. One of these properties is that the small, solid particles will remain in suspension more or less indefinitely. The hydraulic cement of the mixture seems to swell up, taking the appearance of a colloidal, soft, gluey or pastelike mass, which can undergo the subsequent working on a millboard machine without setting or hardening. There is no separation of the cement, even when the material is finally subjected to very high pressure, at which time only clear water escapes.

From the beating engine the material passes directly to the vat of a modified millboard or paper machine, where it is kept in a state of agitation until picked up by a fine wire screen mounted on a rotating cylinder, from which it is passed by an endless felt belt to a second rotating cylinder upon which the thin layers accumulate to the desired thickness. Due to the numerous layers of which a sheet is thus formed, the asbestos fibers cross each other in all directions but mainly in planes parallel with the sheet, giving a texture of great homogeneity and toughness.



Mill No. 3-Bell Asbestos Mines. Thetford Mines, P. Q., Canada.

For complete fire protection, this great Mill and all the other buildings are covered with Ambler Asbestos Corrugated Roofing. Roofs, sides, gables, etc. Fire originating in one of the buildings was confined to this building and all the other mining buildings saved by the use of Ambler Asbestos Corrugated Sheathing.

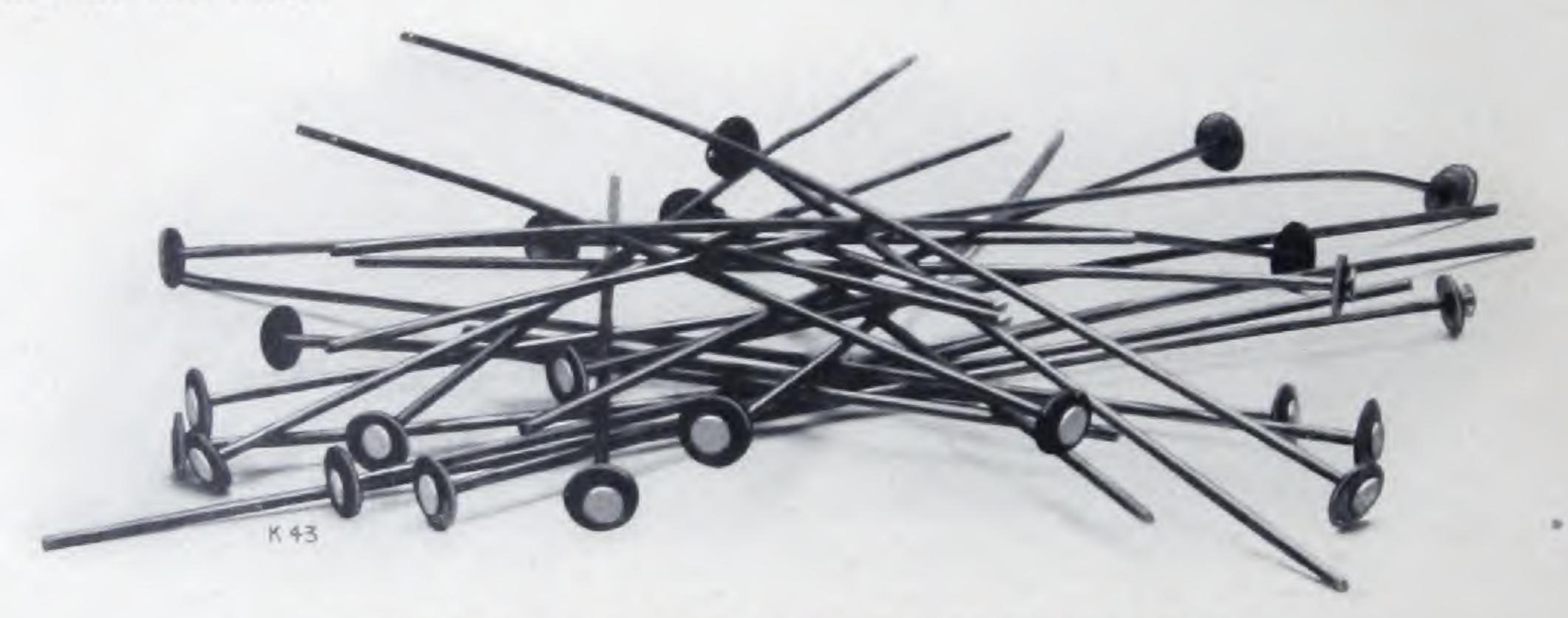
The material is then cut across and removed in the form of sheets, which are piled one upon another and placed between a pair of metallic plates, after which they are subjected to great pressure while the hydraulic cement is still in a collodial condition, thus firmly cementing each fiber of asbestos with the cement colloids and forming a homogeneous sheet which cannot subsequently be split apart.

In the manufacture of Ambler Asbestos Corrugated Roofing and Siding, these metallic plates are corrugated, and, with the asbestos sheets, are placed between heavy press plates and subjected to a pressure of twenty tons or more to the foot, thus compacting them to such an extent as largely to eliminate the minute voids common to concrete as ordinarily made. The resulting product is so water resisting and so thoroughly practical as the perfection of concrete roofing material as to render it the preferred roofing upon the largest engineering structures. After compression the material is stored in a damp room to prevent drying out of the surface until thoroughly set, after which it is well seasoned. In the manufacture of Asbestos Building Lumber which is supplied in the form of flat sheets of varying thickness, the compacting operation is carried out between flat plates on powerful hydraulic presses.

# Application of Ambler Asbestos Corrugated Roofing and Siding

Ambler Asbestos Corrugated Roofing and Siding material is permanent as affected by climatic conditions, thus possessing great advantages for elevators, steel works, machine shops, foundries, gas works, warehouses, pier sheds and other similar structures. It is supplied in the form of sheets measuring  $27\frac{1}{2}$  inches wide and 3, 4, 5, 6, 7, 8, 9, and 10 feet long. In each sheet there are eleven complete corrugations of  $2\frac{1}{2}$ -inch pitch and 1-inch depth from top to bottom. The material varies from 3/16 to 5/16 inch thick, and weighs from 2.8 to 3 pounds per square foot.

This weight is about the same as that of No. 14 to 15 gauge corrugated iron, and it is supported on iron or wooden purlins, in much the same manner as corrugated iron. For roofing the purlins should be spaced not more than 30" to 34" apart, for which reason the 6- and 9-foot lengths work out most conveniently. The slope of the roof should be at least one-quarter; that is, 6 inches rise in each foot, and the sheets should be lapped two corrugations endwise and 6 inches at the ends.



Ambler Aluminum Wire Fasteners with Lead Washers
Used for Attaching Ambler Asbestos Corrugated Roofing and Siding to Iron or Steel Purlins

FASTENINGS.—The preferred manner of securing the material to the purlins is by means of aluminum tie wires provided with heads like wire nails and lead washers. Holes are drilled through the corrugated material just above and just below the edges of the purlins and in the ridge, not the valley of the corrugation. A separate aluminum tie wire is passed through each of these holes, the heads and lead washers being first well buttered with Ambler Asbestos Slaters' Cement and the inner ends are then twisted lightly together under the purlin. For application to wooden structures, ordinary iron wire nails can be driven directly through the material into the wooden supporting members of the roof. The sheets of each succeeding course are staggered from the sheets in the course below by the width of the side overlap, that is two corrugations, thus avoiding any opening or vacant space in the end overlap.

EXPANSION JOINTS.—As with all solid sheet coverings, expansion joints must be provided in long runs, which is easily done by several methods, as for instance, by putting in an extra sheet all the way down the roof with four or five corrugations extra lap, which are not tightly fastened.

ENGINEERING AND INSPECTION SERVICE.—In order to give full satisfaction, Ambler Asbestos Corrugated Roofing and Siding should be properly applied and supported. The cost of such proper support and application is about the same as for corrugated iron and other similar coverings. To insure complete satisfaction, we have instituted at our Main Office a free engineering and inspection service. This assistance is available to all purchasers or intending purchasers of Ambler Asbestos Building Products, not only for inspecting installations, but also for passing upon drawings and making suggestions while designs for buildings are still in course of preparation. We also suggest that architects, engineers and draftsmen working upon designs for buildings of this character should read carefully this booklet, identified by the title, "Ambler Asbestos Engineers' Data Sheets," extra copies of which will gladly be sent upon application.

SUPPORTING STRUCTURE.—For convenience in estimating the roof trusses for supporting Ambler Asbestos Corrugated Roofing, the preceding diagrams and tables were inserted. The complete information will be found on pages 2 to 27, inclusive, of this booklet.



A section of one of the many large buildings at Cramp's Shipyard, Philadelphia, Pa. Covered with Ambler Asbestos Corrugated Roofing and Siding

## Application of Ambler Asbestos Corrugated Siding

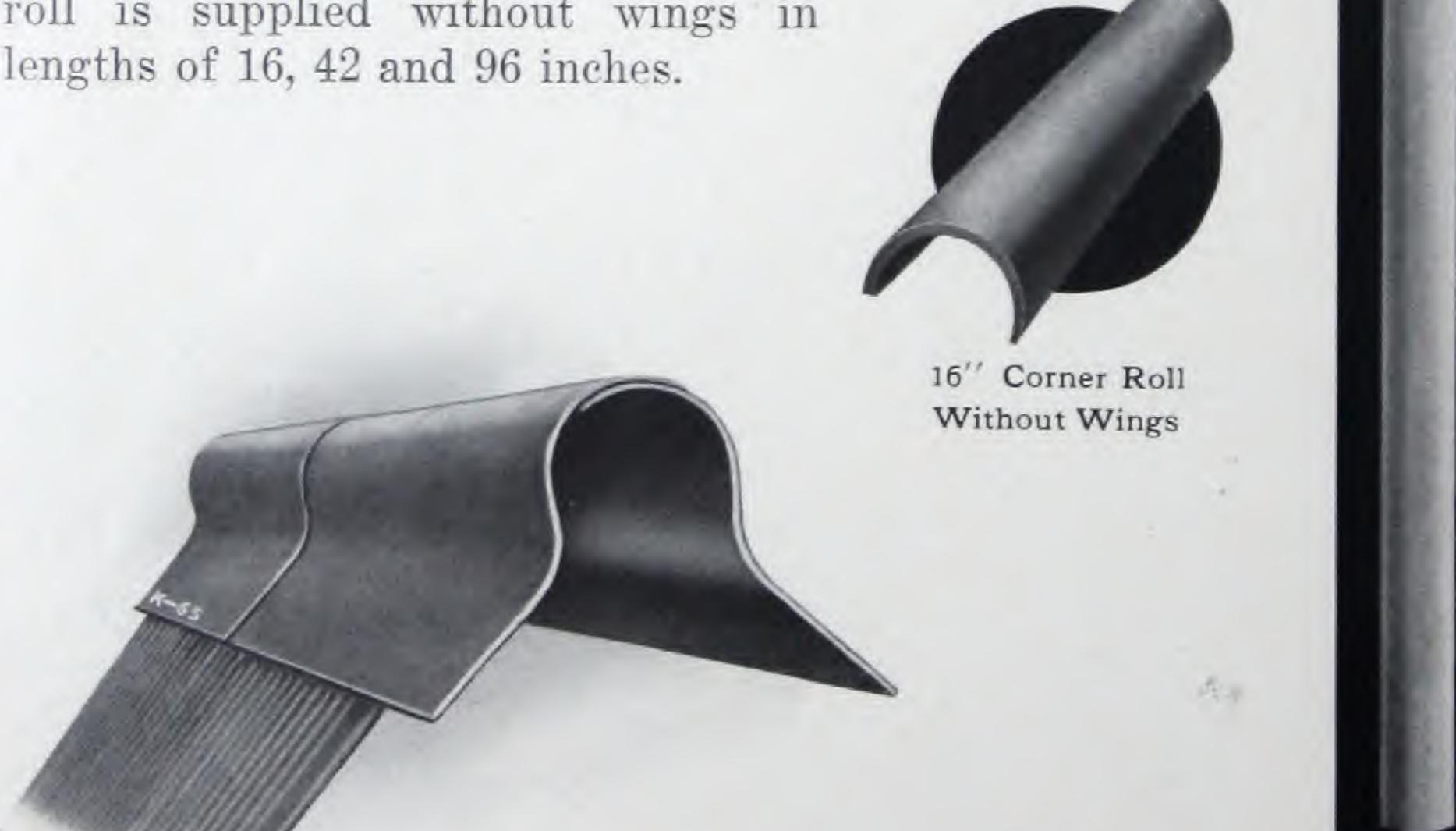
The horizontal supporting members or stringers for siding should be spaced not over 40 inches apart, and the material lapped one corrugation at the sides and 4 inches at the ends. For fastening the siding, galvanized iron clips (see illustrations), are employed. These clips are secured to the corrugated material by means of stove bolts provided with lead washers, the holes, as in the case of roofing, being drilled through the ridges of the corrugations.

WORKMEN.—As Ambler Asbestos Corrugated Roofing and Siding is applied in practically the same manner as corrugated iron, the same class of labor usually employed for the latter, viz., sheet metal workers, will in general be found the best and most economical for large installations.

RIDGE AND CORNER ROLLS.—Ambler Asbestos Universal Winged Ridge Roll is employed for the protection of peaks and ridges. It consists of a half cylindrical part and a wing. The wing is 6 inches in width, giving ample overlap over the ends of the roofing sheets. The half cylindrical parts, of 21/6-

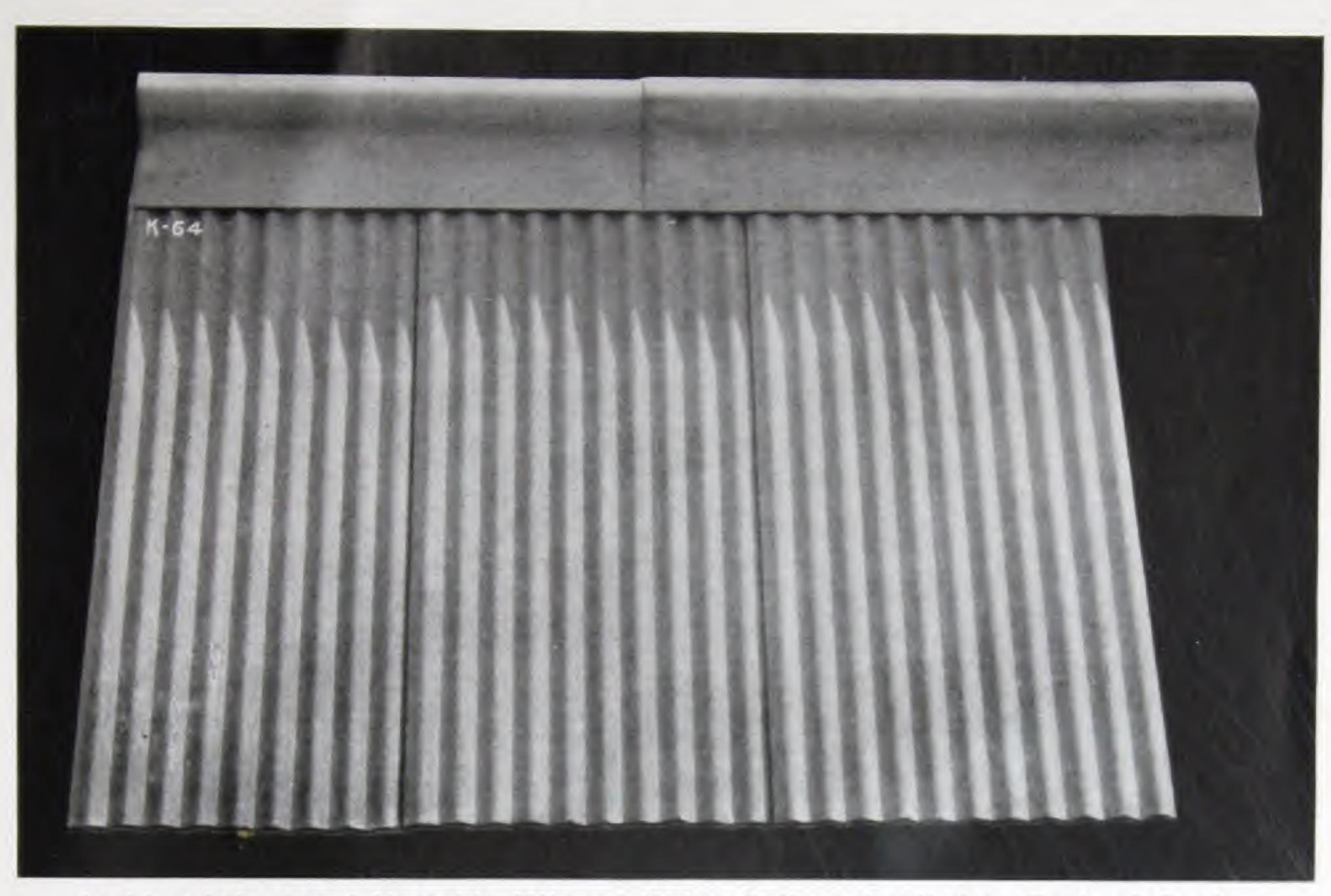
inch radius, fit one over the other, so that the rolls can be applied to any peak angle or pitch of roof. Universal Ridge Rolls are made in lengths of 4 feet.

For the protection of corners, a roll is supplied without wings in lengths of 16, 42 and 96 inches.



Ambler Asbestos Universal Winged Ridge Roll Suitable for Any Slope or Angle of Peak

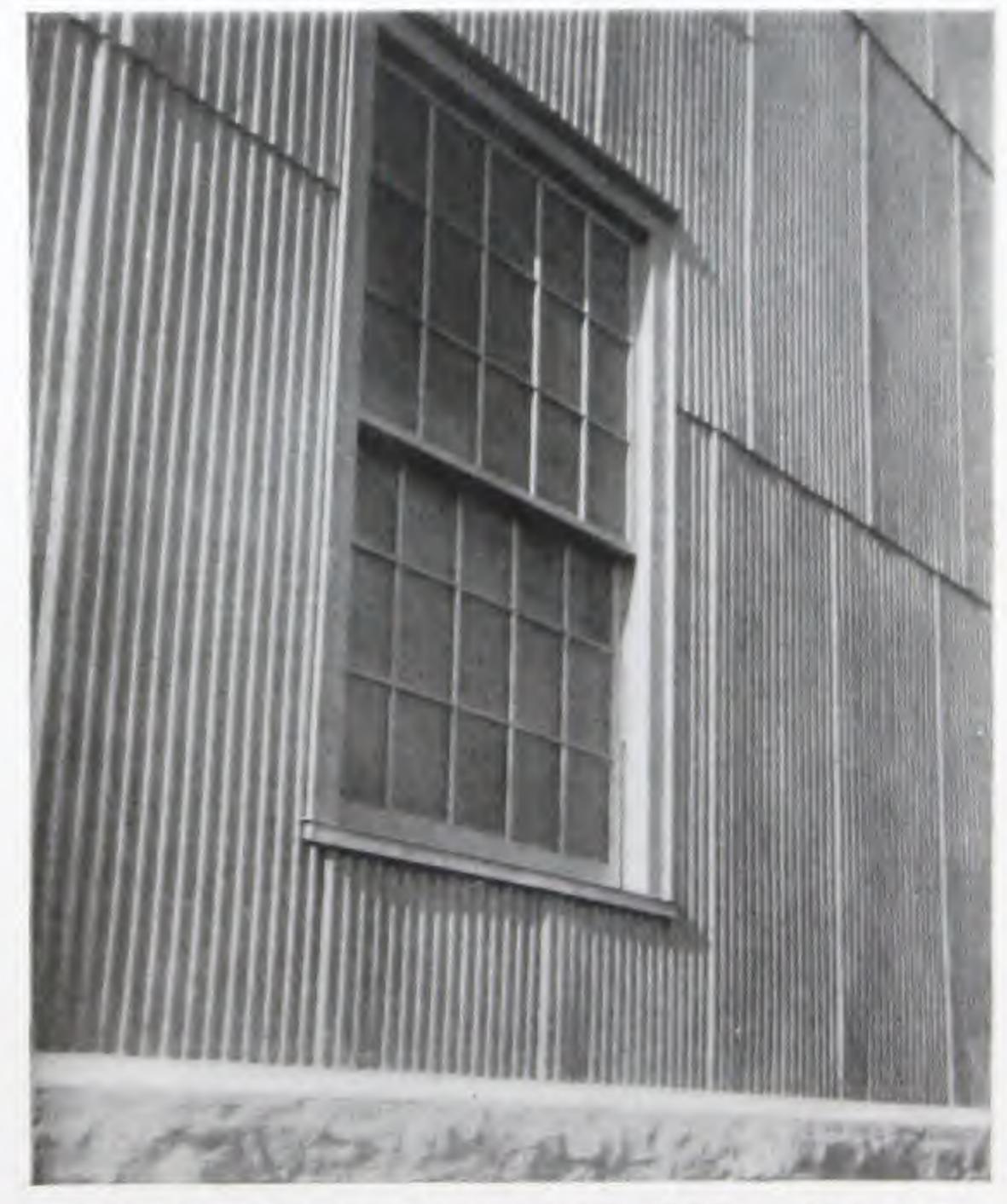
Ambler Asbestos Corner Roll for finishing corner of buildings upon which Ambler Asbestos Corrugated Roofing and Siding has been applied.



Ambler Asbestos Adjustable Winged Ridge Roll as Applied to Peak of Roof

FLASHINGS, EAVES, WINDOWS, ETC.—Where Ambler Asbestos Corrugated Roofing sheets abut against walls or where Ambler Asbestos Siding is

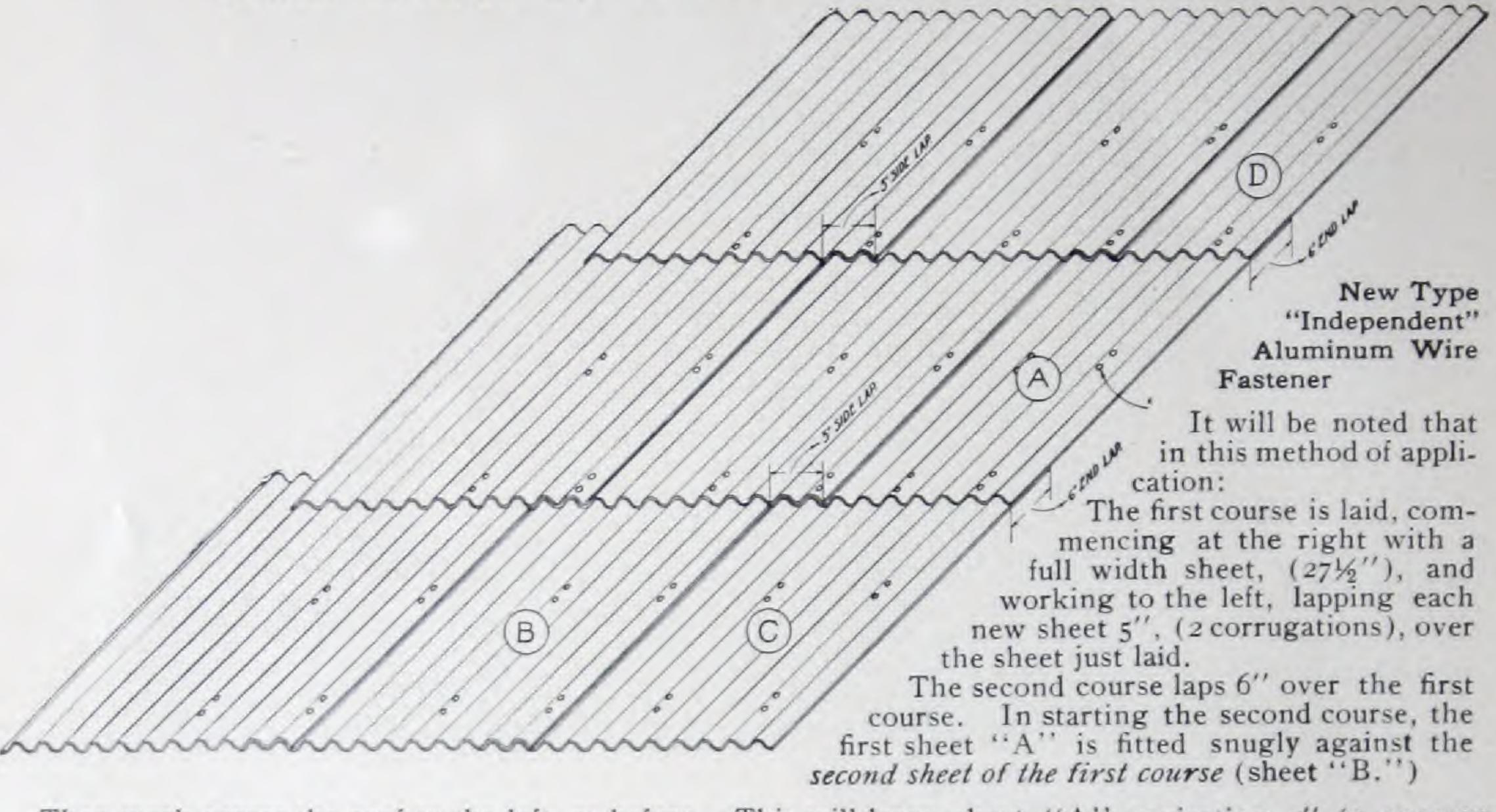
worked around window or door openings, weather-tight and sightly constructions are employed, as suggested in the accompanying drawings and as fully detailed and described in these Ambler Engineer's Asbestos Data Sheets. Ambler Asbestos Corrugated Roofing and Siding has a marked advantage over corrugated iron in this respect, as it can readily be cut with an ordinary rip saw to fit around any detail of construction and the corrugations of adjoining sheets fit evenly, one in the other, making a weather-tight joint. With iron, on the other hand, the corrugations will often flatten out and buckle, making it difficult to obtain an even union of sheets without riveting the laps at frequent intervals.



Ambler Asbestos Corrugated Siding, showing method of fitting around windows Window frame constructed of Ambler Asbestos Building Lumber

#### Method of Laying Asbestos Corrugated Sheathing

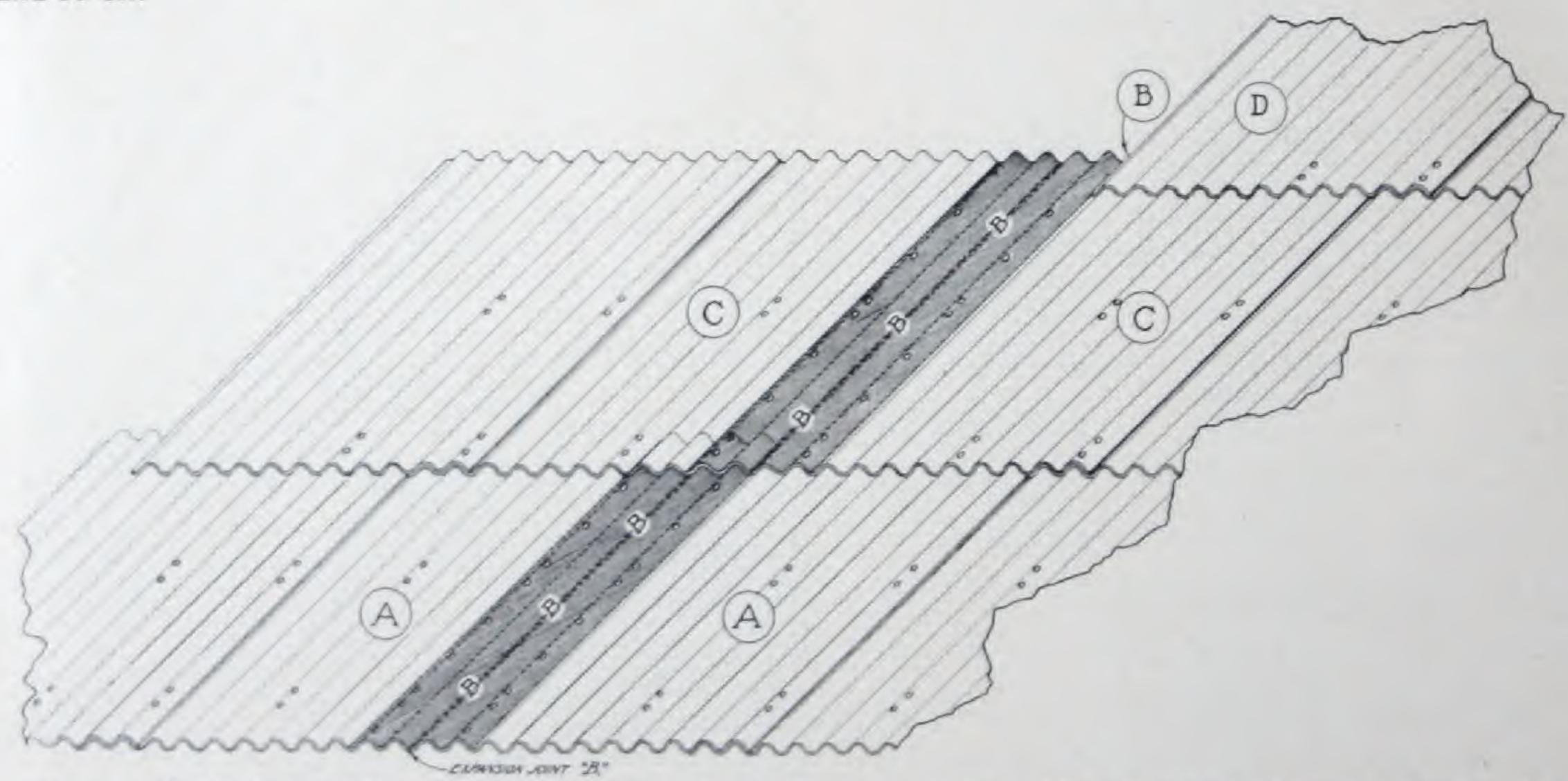
Notice. By staggering joints as shown a perfectly tight roof is secured



Then work across the roof to the left, as before.—This will leave sheet "A" projecting 5" (2 corrugations) further beyond the end of the roof than sheet "C."—This 5" piece must, of course, be cut off.

On the third course the first sheet will project 10" (4 corrugations). This of course is cut off also (See sheet "D").

On the fourth course, the first sheet will project 15" (6 corrugations). This of course must be cut off, and so on.



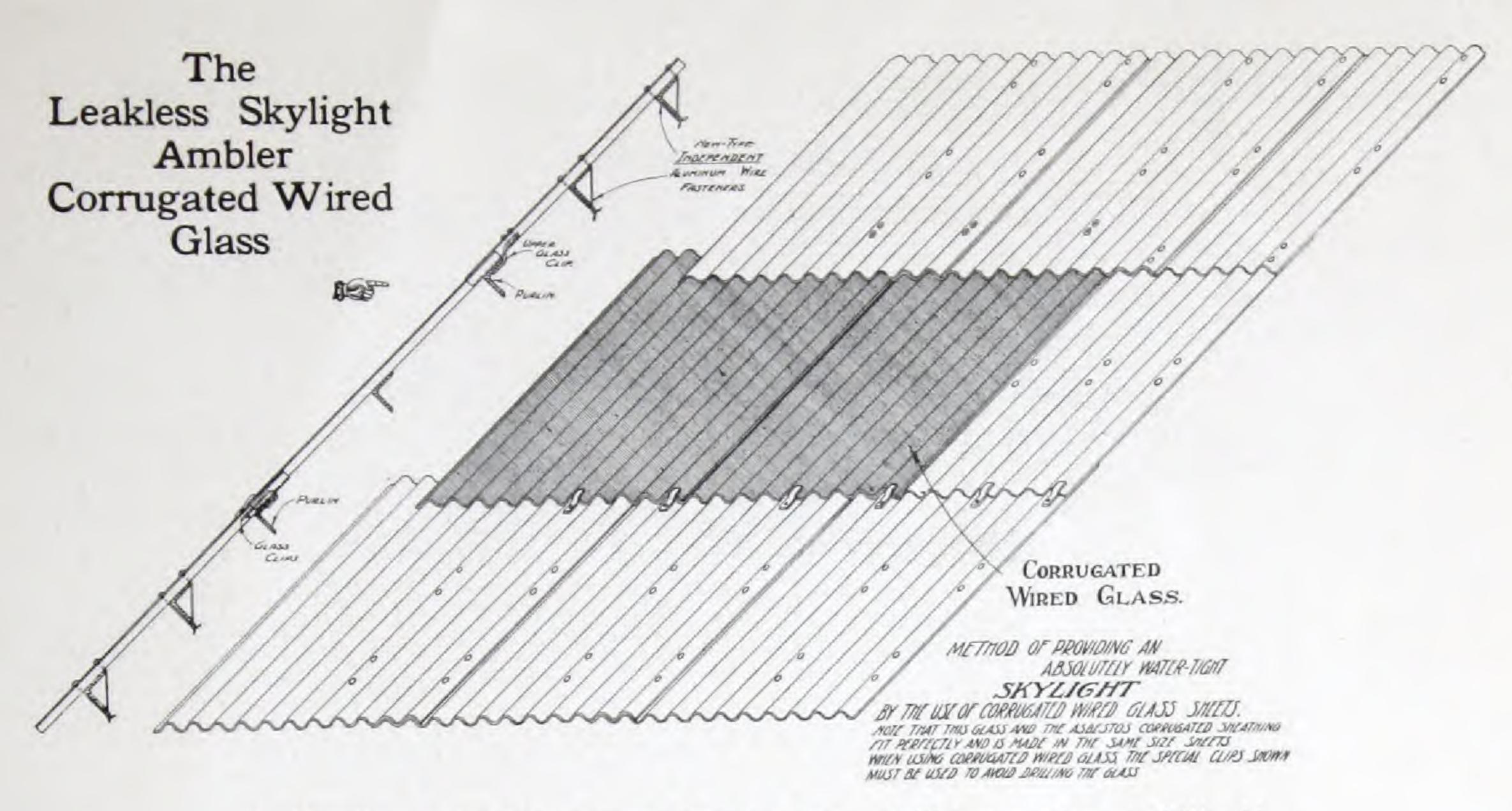
One method of providing expansion joints in roofs of considerable lengths when covered with Ambler Asbestos Corrugated Sheathing

Sheets "A" are cut scant and almost meet, at least I" space being between them.

Sheets" C" likewise as described above, and so on up the roof slope.

Sheets "A"-"C"-"D" should be wired down rather loosely, thus allowing movement for the sliding motion induced by expansion and contraction.

The open joint "B" (before the next two sheets are laid), should be covered with a sheet of lead flashing about 12" wide, previously being rubbed down over a sheet of Asbestos Corrugated material, to shape it to fit perfectly.



Ambler Corrugated Wired Glass for Skylights. 2½" Corrugations; 27½" wide. Lengths 4, 6 and 8 feet, price 75c. per square foot.



Illustrating Ambler Skylights of Corrugated wired glass enmeshed with the sheets of Ambler Asbestos Corrugated Roofing. The simplest, cheapest and best skylight possible.

## Ambler Asbestos Corrugated Roofing

#### Not Crated

#### Price per Square Foot F. O. B. Works

#### Adjustable Pitch Winged Ridge Roll

Actual square foot area for various stock size sheets of Ambler Asbestos Corrugated Roofing or Sheathing, based on a factor of 2.2917 square feet per lineal foot of material:

1 sheet	4 ft	9.1666 sq. ft.	1 sheet 8 ft	18.3333 sq. ft.
1 sheet	5 ft	11.4583 sq. ft.	1 sheet 9 ft	20.6249 sq. ft.
1 sheet	6 ft	13.7500 sq. ft.	1 sheet 10 ft	22.9166 sq. ft.
1 sheet	7 ft	16 0416 sa ft		

#### Ambler Asbestos Corrugated Roofing In Crates

(The Cost of Crates Averages from \$1.00 to \$1.25)

Number Sheets	Size of Sheets		Weight in lbs.	
per Crate			Net	in cu. ft.
20	27½" x 48" x ¾"	590	550	10.388
20	27½" x 60" x ¾"	630	575	12.987
16	27½" x 72" x ¾"	690	625	12.750
14	27½" x 84" x ¾"	700	630	14.875
12	27½" x 96" x ¾"	700	620	15.111
10	27½" x 108" x ¾"	690	600	14.875
10	27½" x 120" x ¾"	740	635	16.527

#### Sundries

Aluminum Wire Fasteners, made of No. 8 gauge wire wi	ith convex lead head,
8½" per hundred \$ .90	12" per hundred \$1.20
10" per hundred 1.00	14" per hundred 1.30
Lead Washers, 1" diameter, flat, for use with tie-wire fas Lead Washers, 1" diameter, flat, for use with bolts	
Lead Washers, cup-shape, for use with nails for wooden the pound) per pound	
Aluminum Rivets for riveting side laps in between purling diameter x 34" long (375 to the pound) per pound diameter x 1" long (330 to the pound) per pound diameter x 114" long (260 to the pound) per pound Aluminum Washers for above (400 to the pound) per pound	h fastenings, d

## A few of the many large and conservative concerns using Ambler Asbestos Corrugated Roofing and Siding

American Agricultural Chemical Co., Crocker Plant, Buffalo, N. Y.

American Agricultural Chemical Co., South Boca Grande, Fla.

American Bridge Co., Shiffler Plant, Pittsburgh, Pa.

American Locomotive Co., Richmond, Va. Appalachian Power Co., Maybeury, Va.

Arlington Co., Arlington, N. J. Armour Co., East St. Louis, Ill.

Atlantic Refining Co., 3144 Passyunk Avenue, Philadelphia, Pa.

Atlas Powder Co. (Dupont).

Bethlehem Steel Co., South Bethlehem, Pa. Blau Gas Co., Long Island City, N. Y.

Buffalo Gas Co., Buffalo, N. Y.

By-Products Coke Corporation, Solvay, Ill. J. I. Case Threshing Machine Co., Racine, Wis. Central R. R. of New Jersey, Jersey City, N. J. City of Minneapolis, Minneapolis, Minn.

Wm. Cramp & Son Ship and Engine Building Co., Philadelphia, Pa.

Cudahy Packing Co., Wichita, Kans.

Dexter Portland Cement Co., Nazareth, Pa.

Diamond Rubber Co., Akron, Ohio.

Electro Smelting and Aluminum Co., Lockport, N. Y.

Federal Sugar Refining Co., North Yonkers, N. Y. B. F. Goodrich, South Akron, Ohio.

Grasselli Chemical Co., Grasselli, N. J.

Harbison-Walker Refractories Co., East Chicago, Ind.

International Railways Co., Porto Barrios and Salvador, C. A.

LaBelle Iron Works, Steubenville, Ohio.

Lehigh Portland Cement Co., Mason City, Ia., and Ormrod, Pa.

Lemp Brewing Co., St. Louis, Mo. Libbey Glass Co., Toledo, Ohio.

Mississippi Glass Co., St. Louis, Mo. N. Y. Central and H. R. R. Co., Grand Central Terminal, N. Y.

Park Theater, Atlantic City, N. J.

Peoples Gas Light and Coke Co. Building, at Crosbie and Hobbie Streets, Chicago, Ill.

Porto Rico Gas Co., Porto Rico, San Juan. Purington Paving Brick Co., Galesburg, Ill. Semet-Solvay Co., Ensley and Holt, Ala.

Solvay Process Co., Detroit, Mich., and Solvay,

Spencer Wire Co., Worcester, Mass. Standard Oil Co., Richmond, Cal.

Susquehanna Coal Co., Wilkes-Barre, Pa.

Terminal Warehouse Co. of R. I., South Providence, R. I.

United Fruit Co., Swan Island, Porto Barrios, Santa Marta and Port Lima.

United Gas Improvement Co., Allentown, Pa., and Hartford, Conn.

Vacuum Oil Co., Olean, N. Y.

Washington University, Seventh and Spruce Streets, Philadelphia, Pa.

Watkins Coal Co., Hastings, Pa.

-and hundreds of others.

#### United States Government Installations of Ambler Asbestos Corrugated Roofing and Siding

For:

Horse barn.

Tool shed.

Cattle barn. Feed house for hogs.

Lighthouse establishment.

Oil house (siding and roofing).

Coal shed.

Lighthouse depot.

Building.

Coal handling plant.

Foundry.

Shell house and powder magazine.

Engine house (mast and gaff).

Shop buildings (roofing).

Coal and wagon sheds.

Ceiling of powder dry houses.

Housings for cable tanks.

Cable tank. Loading room. Sub-stations.

Boat house.

Casement.

Installations at:

Olivier, La.

Beacon, Va.

Buffalo, N. Y.

Tompkinsville, S. I., N. Y.

Wood's Hole, Mass.

New York Navy Yard, Brooklyn, N. Y.

Hospital Cay, Guantanamo, Cuba.

Pearl Harbor, Hawaii.

Guantanamo, Cuba. Randall's Island, N. Y.

New London, Conn.

Picatinny Arsenal, N. J. Toro Point, Canal Zone, Panama.

Culebra, Canal Zone, Panama.

Naos Island, Isthmus of Panama.

# KEASBEY & MATTISON COMPANY

AMBLER,

PENNA.

Miners and Exporters

Crude Asbestos



(No. 1 Crude Asbestos from the Bell Asbestos Mines, owned by the Keasbey & Mattison Company)

MINES AT THETFORD MINES, P. Q., CANADA

also manufacturers of

# Ambler Asbestos Products

"EVERYTHING IN ASBESTOS"

Asbestos fibres of every description and all standard grades Asbestos Carded, Asbestos Yarn, Asbestos Cloth, plain and metallic, Asbestos Tapes, Asbestos Gaskets, Asbestos Brake Lining, Asbestos Washers, Asbestos Gloves and Mittens, Iron Holders, Shields, Discs and Washers, Asbestos Mill Boards, Asbestos Roll Board and Wall Boards, Asbestos Paper, Asbestos Sheet Packings of every description, Asbestos Wick and Rope Packing, Asbestos Theatre Curtains and Clothing, Asbestos Cements, Coverings, Felts, Sheathings, Sheets, Shingles, etc., etc.

Asbestos manufactures in infinite variety.

FOR

# EVERYTHING IN ASBESTOS

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KEASBEY & MATTISON
COMPANY
AMBLER, PENNA.

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